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Some Effects of Cycle Length and Probability of Reinforcement  
on Responding Maintained by  $\tau$  Schedules of Reinforcement

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## Abstract

### Some Effects of Cycle Length and Probability of Reinforcement on Responding Maintained by $\tau$ Schedules of Reinforcement

by

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The  $\underline{t}$ - $\tau$  systems of stimulus schedules were developed in an attempt to induce some order into a chaotic proliferation of reinforcement schedules. The earlier of the two systems, the  $\underline{t}$  system, defined a single schedule for determining which responses in a stream of behavior are followed by the reinforcing stimulus. The parameters of this schedule were chosen so that their manipulation would mimic either the procedures or the behavioral effects of almost all previously developed reinforcement schedules. In addition, some values of the parameters could produce novel procedures and novel behavioral effects, yet in a manner systematically related (by the continuous nature of the parameters) to the existing corpus of knowledge about schedules. Originally, there were just two parameters: One was called  $T$ , the length of a free-running time cycle, and the other was called  $\bar{T}$ , the proportion of each time cycle in which one response (the first) could produce reinforcement. The names  $\underline{t}$ ,  $\underline{t}^D$ , and  $\underline{t}^A$  were given to the cycle, the part of the cycle during which the first response would produce reinforcement, and the remainder of the cycle, respectively.  $[\underline{t}^D + \underline{t}^A = T$ , and

$\underline{t}^D / (\underline{t}^D + \underline{t}^A) = \bar{T}$ ] Later, the probability of reinforcement parameter was introduced so that the first response in each  $\underline{t}^D$  need not always be reinforced. The  $\underline{t}$  system achieved many of its goals, but suffered from one theoretical deficiency: while purporting to be a strictly temporal system, it still maintained the numeric rule of reinforcing the ordinarily first response in  $\underline{t}^D$ . The  $\tau$  system endeavored to retain the power of the  $\underline{t}$  system, but to remain a strictly temporal system by allowing every response in a stream of behavior to be eligible for reinforcement. Time cycles and cycle parts were defined as in the  $\underline{t}$  system, but the letter  $\tau$  was substituted for  $\underline{t}$  in the nomenclature. The rule for reinforcement was changed so that every response in  $\tau^D$  had an equal probability of reinforcement and so that every response in  $\tau^A$  also had an equal probability of reinforcement, with the probability in  $\tau^D$  higher than the probability in  $\tau^A$ .

The parameter of  $\tau$  schedules which has not previously been studied systematically is probability of reinforcement in  $\tau^A$  (earlier  $\tau$  studies always used a value of 0.00). The present study investigated three values of this parameter (0.00, 0.01, 0.10) in conjunction with two probabilities of reinforcement in  $\tau^D$  (0.10 and 1.00). Five values of the  $\tau$  cycle-length parameter were also studied (from 1 to 500 sec), and  $\bar{T}$  was always constant at 0.2. Five groups of white rats were used, two stimulus-control pairs, and an extra group. All animals were exposed to all three  $\tau^A$  probabilities daily, using a multiple  $\tau$  schedule procedure. Each group was exposed to just one of the two values of reinforcement probability in  $\tau^D$  during the experiment, and the  $\tau$  cycle-length parameter was systematically varied at 36-session intervals

(experimental points) for the various groups.

The major findings were sensitivity of response rate to probability of reinforcement, and changes in response rate as a function of time within  $\tau$  cycles and as a function of time since reinforcement. These changes in rate were dependent upon the difference in probability of reinforcement in  $\tau^D$  and  $\tau^A$ , on the length of the  $\tau$  cycle, and on the amount of exposure to schedule conditions. As expected, systematic variation in  $\tau$ -schedule parameter values produced behavioral effects ranging from "replication" to "novel," lending credence to the notion that a systematic and parametric approach to the theory of reinforcement schedules may lead to both reasonable organization of existing knowledge and useful extension of that knowledge.

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## INTRODUCTION

The  $\underline{t}$ - $\tau$  systems of stimulus schedules have maintained active experimental interest for a decade and a half (vide, Schoenfeld, Cole, et al., in preparation). Although the  $\tau$  system (Schoenfeld & Cumming, 1960) was outlined soon after the  $\underline{t}$  system (Schoenfeld, Cumming, & Hearst, 1956), only two studies of  $\tau$  schedules are available to date (Snapper, 1962; Cumming & Schoenfeld, 1963). The reasons for this relative experimental neglect lie in the interest of early researchers who wished to explore the relationships between the "new" systems and traditional schedules of reinforcement. The  $\underline{t}$  system allows one to generate contingencies with strong formal similarities to a large number of the traditional reinforcement schedules. For example, regular reinforcement (crf), fixed-interval (FI) by the clock (Skinner, 1938) with or without "limited hold" (Ferster & Skinner, 1957), and extinction (ext) could be specified exactly. In addition, the  $\underline{t}$  system developed improved versions of variable interval (VI) and variable ratio (VR), called "random interval" (RI) and "random ratio" (RR). These latter schedules used the probability of reinforcement variable,  $p(S^R)$ , to schedule inter-reinforcement time ( $IS^R_T$ ) or responses-per-reinforcement ( $R/S^R$ ) frequency distributions with exponential decay functions, which have been considered by some workers to be ideal for producing steady response rates (Catania & Reynolds, 1968). Furthermore, the  $\underline{t}$  system could mimic fixed-ratio (FR) behavior as desired. The  $\tau$  system, on the other hand, could specify only two traditional schedules exactly (crf,

ext), and served mostly to provide theoretical support for the systems' claim to independence from all non-temporal variables.

Early interest in encompassing traditional reinforcement schedules within the  $\underline{t}$ - $\tau$  systems soon gave way to investigation of some of the novel schedules afforded by the parametric nature of the temporal systems. An important parameter proved to be  $p(S^R)$ , which is a temporal variable when treated as a  $\underline{t}$  schedule with very short cycle length:  $p(S^R)$  is  $\bar{T}$ , the proportion of a cycle during which responses are reinforced.<sup>1</sup> One novel schedule derived in this way is RR, which specifies the  $p(S^R)$  applying to each response: the mean number of responses-per-reinforcement is the reciprocal of  $p(S^R)$ , and  $p(N)$ , the probability of  $N - 1$  unreinforced responses followed by a reinforced response, is  $p(N) = P(1 - P)^N$ , where  $P$  is  $p(S^R)$ . This probability density function may be used to predict  $R/S^R$  frequency distributions for any RR schedule. Random ratio schedules have been investigated for a wide range of  $p(S^R)$  (Brandauer, 1958; Sidley & Schoenfeld, 1964; Farmer & Schoenfeld, 1967). These investigators found that mean post-reinforcement pause,  $PS^R_P$ , increased with decreases in  $p(S^R)$ , but that "running rate" (total responses divided by session time minus  $S^R$  and  $PS^R_P$  time) are relatively insensitive to the value of  $p(S^R)$ . These findings for RR schedules are similar to those in the literature for  $PS^R_P$ s under various FR and VR schedules, but are difficult to compare with reported response rates under FR and VR because other investigators seldom differentiate among what we call "running rate," "overall rate" (total responses divided by total session time), and "corrected rate" (overall rate with total  $S^R$  time subtracted from the denominator).

Random ratio, like other schedules, may be considered in basic

terms as a rule for intruding stimuli into a stream of behavior on an intermittent basis. The R-superscript in the stimulus notation  $S^R$  means that a particular stimulus is chosen because of its known effects on responses following it, but any stimulus could be scheduled by an RR schedule. In this context, the  $\tau$  system is an important tool for behavior theory: it is a procedure for changing the probability that a stimulus will be intruded into a stream of behavior. A  $\tau$  schedule may be expressed as two alternating RR schedules. One alternation constitutes a cycle,  $\tau$ , whose length is the parameter determining the rate at which the two RR schedules alternate. The higher  $p(S^R)$  is in effect during the first part of each  $\tau$  cycle, called  $\tau^D$ , and the other RR schedule is in effect during the rest of the cycle,  $\tau^A$ . Thus, three parameters in addition to cycle length specify a  $\tau$  schedule completely: (1) the proportion,  $\bar{\tau}$ , of each cycle devoted to  $\tau^D$ , (2) the  $p(S^R)$  in  $\tau^D$ , or  $p(S^R|R\cdot\tau^D)$  [Read as, "probability of reinforcement given a response during  $\tau^D$ "], (3) the  $p(S^R)$  in  $\tau^A$ , or  $p(S^R|R\cdot\tau^A)$ .

The first tau study (Snapper, 1962) investigated the two parameters  $\bar{\tau}$  and  $p(S^R|R\cdot\tau^D)$  with pigeons. Cycle length was always ten minutes, and  $p(S^R|R\cdot\tau^A)$  was always zero. Snapper found that there was what he called a "temporal gradient of response probability" during the  $\tau$  cycles for most values of the parameters he studied. Typically, maximal rates in  $\tau^D$  decreased rapidly in the beginning of  $\tau^A$ , and after a period of low rates during the middle of  $\tau^A$ , gave way to increasing rates as the beginning of the next  $\tau^D$  approached. As  $\bar{\tau}$  was decreased, overall rate decreased while  $R/S^R$  and  $PS^R_P$  increased. Overall rate was insensitive to changes in  $p(S^R|R\cdot\tau^D)$ , while  $R/S^R$  and  $PS^R_P$  decreased with increases in this parameter.

The other tau study (Cumming & Schoenfeld, 1963), also using pigeons, treated the  $\tau$  cycle-length parameter while holding  $\bar{\tau}$  at 0.2,  $p(S^R|R\cdot\tau^D)$  at 0.02, and  $p(S^R|R\cdot\tau^A)$  at zero. As cycle length decreased from 600 sec to 7.5 sec, corrected response rate increased, and  $R/S^R$  increased to a maximum before decreasing.

Discrimination was an important concept in the formulation of both tau studies, and it is probably because of the traditional notion that "extinction is the hallmark of discrimination" (Keller & Schoenfeld, 1950), that both held  $p(S^R|R\cdot\tau^A)$  at zero and employed small values of  $\bar{\tau}$ . Because  $p(S^R|R\cdot\tau^D)$  and  $p(S^R|R\cdot\tau^A)$  define random ratio schedules in  $\tau^D$  and  $\tau^A$ , Snapper's manipulation of  $p(S^R|R\cdot\tau^D)$  to study "the transition from  $[\tau^D]$  to  $[\tau^A]$ " (Snapper, 1962) could be called an experiment in "schedule discrimination," analogous to those studies of stimulus discrimination in which the value of  $S^D$  is varied along some continuum. On the other hand, the Cumming and Schoenfeld procedure studied a type of temporal discrimination; they described rate changes within  $\tau^A$  as "a temporal discrimination reminiscent of behavior under fixed interval schedules" (Cumming & Schoenfeld, 1963). The belief that extinction is fundamental to both schedule and temporal discrimination may be traced to Skinner (1938), who observed that as periodic reconditioning (FI) and discrimination training progress, response rates both under FI and during  $S^A$  show decreases characteristic of the extinction process. The present study examines the role of extinction in maintaining discriminations by pairing two different values of  $p(S^R|R\cdot\tau^D)$ , 0.1 and 1.0, with values of  $p(S^R|R\cdot\tau^A)$  other than zero, namely 0.01 and 0.10. As in the Cumming and Schoenfeld study, cycle length is varied here in an examination of "temporal" discrimination.

The interactions of a  $\tau$  schedule with a stream of behavior are quite complex:  $\tau$  schedules share formal properties with "ratio" schedules by specifying R/S<sup>R</sup> distributions in  $\tau^D$  and  $\tau^A$ , and other properties with "interval" schedules by influencing IS<sup>R</sup><sub>T</sub> distributions through the cycle-length and  $\bar{\tau}$  parameters. In the present study, the data are examined for ways in which some of these complex interactions as well as discriminations of the "types" mentioned above may be related to the concepts of behavioral continuity and stimulus "functions" as these concepts are being used in current behavior theory.

## METHOD

### Subjects

Twenty-three male albino rats, obtained from Charles River Laboratories at an age of 83 days, were housed in individual cages with continuous access to fresh water and wooden gnawing blocks throughout the experiment. For 34 days, the rats had continuous access to Purina lab chow, and were weighed daily. Then, over a period of 9 to 14 days, all animals were reduced to a standard 75-80% of their maximum recorded weights. During the daily experimental sessions which followed, the animals earned a variable number of reinforcements, each consisting of 1.8 sec access to a drop of Borden's Magnolia Brand sweetened condensed milk mixed with an equal volume of tap water; after each session, sufficient lab chow was fed to maintain the desired weight standard.

### Apparatus

Two Lehigh Valley Electronics (LVE) model 1316 rat chambers housed in LVE-1316c cubicles were used, with each rat assigned to one of the two boxes at the beginning of the experiment. The chamber light was a #304 miniature lamp mounted on the rear wall of the cubicle; the left cue light was a #1829 miniature lamp mounted behind a red jewel located 8.5 cm above the grid floor and 3.3 cm from the left side of the work panel; the right cue light was another #1829 miniature lamp mounted behind a 2.5 cm diameter translucent plastic disk located 7.0 cm from the floor and 2.5 cm from the right side of the work panel. A LVE-1352 lever was mounted 1.9 cm below the right cue light and required approximately 22 gms for switch

closure. All lamps were operated at 24 VDC, and a "dim" condition for the right cue light was obtained by interrupting the voltage to it for 3 msec out of every 4 msec. A LVE-1351 dipper with a 0.02 cc cup was in the center of the work panel, 2.5 cm above the grid floor.

Experimental conditions were programmed using BRS Electronics logic modules and precision clocks; data were recorded on Sodeco counters, Gerbrands cumulative recorders, and an Ohr-tronics paper tape perforator. The system for recording the data on paper tape and subsequently processing by computer is described in Appendix B.

### Procedure

After all animals had reached their standard weights, one week was devoted to dipper training and shaping. Each animal was run on alternate days until he had made at least 200 responses under crf in a single 1024 sec session. During these sessions, the chamber light was steadily on and flicked off for 150 msec with each response. The dipper was normally up. All animals were then run for one session (1000 sec) on crf with the chamber light on (no flicker) and the dipper normally down. From this session on, each  $S^R$  consisted of 1.8 sec access to the dipper followed by 0.2 sec to allow the dipper to return fully into the milk reservoir; the total time for which responses were "locked-out" with each  $S^R$  was thus 2 sec. Timing associated with the  $\tau$  schedules was not interrupted during  $S^R$  time.

After shaping, sessions consisted of exposure to each ply of a three-ply multiple schedule, each ply differing in the value of the experimental parameter,  $p(S^R | R \cdot \tau^A)$ . A similar technique has been used

by Cole (1968) to obtain reliable data for several RI schedules differing in cycle length within single sessions. In the present experiment, the sequence of plys within the three components of a session was mixed, and each ply had its own exteroceptive stimulus: stimulus condition "2" was the right cue light on, condition "1" was the right cue light "dim", and condition "0" was the right cue light off. Every session began with the chamber light on, in the presence of which the first lever press turned off the chamber light, turned on the left (red) cue light, started timing of the 1500 sec session, and set the appropriate stimulus condition (0, 1, 2) for the first component of that session. For the first three days, the animals were on crf during all three components of each session; the sequence of stimuli during those three sessions was 2-1-0, 1-0-2, and 0-2-1 for all animals. The next two sessions were RR4 [ $p(S^R) = 0.25$ ] with stimulus sequences 2-0-1 and 1-2-0. Three sessions of RR8 (0-1-2, 2-1-0, 1-0-2) and six sessions of RR16 (1-0-2, 0-2-1, 2-0-1, 1-2-0, 0-1-2, 2-1-0) followed. The rats were then assigned to five groups (A, B, C, D, X) on the basis of their performance for the last two days of RR16 by ranking them according to overall rates, assigning ranks 6, 12, and 18 to the "extra" (X) group, and assigning the other twenty to groups A, B, C, and D so as to equate summed ranks in each group and approximately to equate the number of rats from each quartile in each group. One rat from Group C (#11) died during the fifth experimental point, but his data for the first four experimental points were included in the data analysis.

For groups A, B, and X,  $p(S^R | R \cdot \tau^D)$  was 0.1 for all  $\tau$  schedules

studied; for groups C and D,  $p(S^R|R \cdot \tau^D)$  was always 1.00. Throughout the experiment, and for all groups,  $\tau^D$  was the first fifth of each  $\tau$  cycle ( $\bar{\tau} = 0.2$ ). Each of the five groups was exposed to three different  $\tau$  schedules [equivalently, three values of  $p(S^R|R \cdot \tau^A)$ ] at each of five experimental points (an experimental point was 36 or 48 sessions, each point generally differing in the value of the cycle length parameter). For all groups, the schedule names "0", "1", and "2" refer to  $\tau$  schedules with  $p(S^R|R \cdot \tau^A)$  values of 0.00, 0.01, and 0.10 respectively. Stimulus 1 was on whenever Schedule 1 was in effect for all groups. For groups A, C, and X, Stimulus 0 was paired with Schedule 0 and Stimulus 2 was paired with Schedule 2. Groups B and D had Stimulus 0 paired with Schedule 2 and Stimulus 2 paired with Schedule 0. Groups A and B followed identical procedures except for stimulus-schedule pairings, as did groups C and D.

Each daily session consisted of three 500 sec components, each component being one of the three  $\tau$  schedules (0, 1, 2) presented in mixed sequence during the session. The experiment was divided into blocks of six sessions each; during each block, the six possible permutations of three schedule sequences in a session were run once each in random order. Each of the five experimental points consisted of a random permutation of six counterbalanced sequences of sessions, except for the first experimental point, in which two blocks of sessions were repeated. A computer program was used to produce procedure sheets for each session; program listings and a sample procedure sheet are in Appendix C. Experimental points generally differed in the length of  $\tau$  cycle studied with each group. All together, five differ-

ent cycle lengths were explored with the various groups in the course of the experiment. As Table 1 shows, groups C and D were exposed to successively decreasing cycle lengths during experimental points 1-4, with re-exposure to the 100 sec value at experimental point 5; Group X was exposed to successively increasing cycle lengths across experimental points 1-5, while groups A and B were given prolonged exposure to the 100 sec cycle length during experimental points 2-5.

Table 1

Tau cycle length in seconds and number of  $\tau$  cycles per component for each experimental point for the five groups of rats.

| Experimental Point | Number of Blocks | Number of Sessions | Groups A and B |                      | Groups C and D |                      | Group X      |                      |
|--------------------|------------------|--------------------|----------------|----------------------|----------------|----------------------|--------------|----------------------|
|                    |                  |                    | Cycle Length   | Cycles per Component | Cycle Length   | Cycles per Component | Cycle Length | Cycles per Component |
| 1                  | 8                | 48                 | 500            | 1                    | 500            | 1                    | 1            | 500                  |
| 2                  | 6                | 36                 | 100            | 5                    | 100            | 5                    | 10           | 50                   |
| 3                  | 6                | 36                 | 100            | 5                    | 50             | 10                   | 50           | 10                   |
| 4                  | 6                | 36                 | 100            | 5                    | 10             | 50                   | 100          | 5                    |
| 5                  | 6                | 36                 | 100            | 5                    | 100            | 5                    | 500          | 1                    |

## RESULTS

The data reported here were obtained by pooling information across the last block of six sessions at each experimental point. Where occasional apparatus failures caused the loss of data from a session during one of these blocks, data from the corresponding session of the previous block were substituted. Because the same procedure was followed for groups A and B except for their counterbalanced stimulus-schedule pairing, the data from both groups are sometimes pooled together under the group name "AB." The same relationship holds between groups C and D and the group name "CD."

Group AB was used to examine the effects of prolonged exposure to the 100 sec cycle length by keeping this parameter fixed throughout experimental points 2-5 (see Table 1). Figure 1 presents the changes in running rates in  $\tau^D$  and  $\tau^A$  for the three  $\tau$  schedules [differing only in  $p(S^R|R\cdot\tau^A)$ ] studied with these subjects. Sidley and Schoenfeld (1964) found that 40 or more sessions (5 to 20 min each) were required for pigeons to obtain "stable" corrected rates under RR schedules; Fig. 1 shows that running rates under all the RR schedules constituting the parts of the  $\tau$  schedules studied, except for  $\tau^A$  of Schedule 0 [ $p(S^R) = 0.00$ ], continued to increase across the 144 sessions (500 sec per  $\tau$  schedule per session) run by Group AB with cycle length of 100 sec. Although Sidley and Schoenfeld's data give precedent to finding long-term rate changes with RR schedules, the present findings must also be considered in light of the procedure of making no age-growth adjustments in the subjects' weight standards during the experiment. Other data

(see below) do show long-term performance changes not directly attributable to the age-growth factor, however. The separation among the three pairs of functions in Fig. 1 indicates that the subjects discriminated among the three  $\tau$  schedules, which differed only in  $p(S^R|R\cdot\tau^A)$ . This sensitivity of running rate to  $p(S^R)$  may be contrasted with the finding by Farmer and Schoenfeld (1967) of no direct relationship between  $p(S^R)$  and running rate under random ratio schedules, using the procedure of exposing subjects to a single value of the  $p(S^R)$  parameter for blocks of sessions. Morse's observation, that response rate is more sensitive to reinforcement frequency when multiple or concurrent schedules are used than when sessions involve only a single schedule, may be relevant in relating the present data to the RR findings (Morse, 1966). Figure 1 shows that running rate in  $\tau^D$ , where  $p(S^R)$  was always 0.10, also was a direct function of  $p(S^R|R\cdot\tau^A)$ ; this finding gives evidence for stimulus control by the exteroceptive stimuli paired with each  $\tau$  schedule. This demonstration of stimulus control, where different stimuli maintain different response rates under the same reinforcement schedule, might be considered more rigorous than the usual procedure of maintaining different response rates with different stimuli under different reinforcement schedules. The differences among  $\tau^D$  rates could be attributed to a blending of the  $\tau^D$  and  $\tau^A$  RR schedules within  $\tau$  cycles, but evidence for discrimination between  $\tau^D$  and  $\tau^A$  is given by the separation between the  $\tau^D$  and  $\tau^A$  functions for schedules 0 and 1 (the difference between  $\tau^D$  and  $\tau^A$  rates for Schedule 2 is an experimental artifact dealt with below). The divergence of the two functions for Schedule 0 suggests that a  $\tau^D - \tau^A$  discrimination continued to develop during the experiment for this schedule, but not for Schedule 1.

A sequential analysis of response rate within  $\tau$  cycles allows evaluation of the nature of the discrimination between  $\tau^D$  and  $\tau^A$ , which proves to be complex. Figure 2 plots sequential running rates within  $\tau$  cycles for all five experimental points for Group AB. For both Schedule 0 and Schedule 1, two changes in within-cycle responding continued to develop across experimental points 2 - 5: (a) a steeper and steeper drop in rate early in  $\tau^A$ , marking a discrimination of the change in  $p(S^R)$  between  $\tau^D$  and  $\tau^A$ , and (b) an equivalent increase in rate late in  $\tau^A$ , indicating a fixed-interval type of temporal discrimination. The counterbalancing effect of these two rate changes resulted in no apparent change in the separation between the  $\tau^D$  and  $\tau^A$  functions for Schedule 1 in Fig. 1, even though discrimination between the two was clearly developing. These within-cycle rate changes agree well in form with those reported by Snapper (1962) and by Cumming and Schoenfeld (1963), and extend the generality of this characteristic pattern of rate changes under  $\tau$  schedules to  $p(S^R|R \cdot \tau^A)$  values other than zero. The  $\tau^D - \tau^A$  boundary discrimination and the temporal discrimination need not always occur together, as demonstrated by the top row of panels in Fig. 2: The special case where there was exactly one  $\tau$  cycle per component, so that the onset of each  $\tau^D$  was accompanied by an exteroceptive stimulus change, produced the dip in running rate at the beginning of  $\tau^A$ , but no increase in rate toward the end of the cycle.

The panels for Schedule 2 in Fig. 2 show a low response rate early in the  $\tau$  cycle, but not throughout  $\tau^D$ ; this finding suggests that the  $\tau^D - \tau^A$  rate difference found for Schedule 2 in Fig. 1 might

be due to carry-over of the low rate of responding appropriate to the low  $p(S^R|R \cdot \tau^A)$  of a preceding Schedule 0 (0.00) or Schedule 1 (0.01) component into the first  $\tau^D$  of Schedule 2 components. Indeed, subtracting the latency of the first response in each Schedule 2 component from the denominator of the  $\tau^D$  running rates brings those rates to within 0.2 responses-per-second of the corresponding  $\tau^A$  running rates, thus "correcting" the artifact noted above.

Rate data for groups A and B are presented separately in tables 2 and 3. These data indicate that Group B showed somewhat higher rates than Group A (more and more so as the experiment progressed), but that the shapes of the various rate functions for the two groups were basically the same. Overall and corrected rates are also included in these tables (for comparison with previous  $\tau$  studies below). The higher the local  $p(S^R)$ , the greater these two measures are attenuated compared to running rates, thus showing attenuated  $\tau^D - \tau^A$  rate differences wherever  $p(S^R|R \cdot \tau^D)$  was greater than  $p(S^R|R \cdot \tau^A)$ . Both corrected and overall rates show an increase over  $\tau^D$  rates early in  $\tau^A$  (class intervals 11-12) for both Schedule 0 and Schedule 1. Since corrected rates show this change, it is not due to a change in  $PS^RPs$ ; since running rates do not show the change, it must be due only to the change in  $S^R$  density on the denominator of the corrected and overall rates. This finding is reminiscent of reports that a number of schedules seem to maintain "break-run" behavior, in which a subject simply responds at a fairly constant rate until "interrupted" by  $S^R$  (Cumming & Schoenfeld, 1961; Schoenfeld, Cole, et al., in preparation). In the present case, the occurrence of an uninterrupted chain of responses may also serve as the occasion for sub-

sequent pausing, that is, as the "cue" that  $p(S^R)$  has changed. This finding gives some structure to earlier observations that "breaks" need not occur only immediately following  $S^R$  (Cumming & Schoenfeld, 1958), and could also be related to the literature of response-produced stimuli.

Because groups C and D were exposed to more disparate values of  $p(S^R|R\cdot\tau^D)$  and  $p(S^R|R\cdot\tau^A)$  than groups A and B [higher  $p(S^R|R\cdot\tau^D)$  and the same  $p(S^R|R\cdot\tau^A)$ s], rate patterns in  $\tau^D$  and  $\tau^A$  were established more quickly, enabling several values of the  $\tau$  cycle-length parameter to be sampled during the experiment. The three subjects in Group X were also run at several cycle lengths, but in a different sequence (see Table 1), and with the same value of  $p(S^R|R\cdot\tau^D)$  as groups A and B (0.10). Tables 4, 5, and 6 provide the same rate analyses for groups C, D, and X respectively as tables 2 and 3 do for groups A and B. Note that no  $\tau^D$  running rates are available for Group C or D because there is no denominator with which to calculate this rate when  $p(S^R) = 1.00$ . Where  $\tau^D$  running rates do appear in tables 4 and 5, the denominators consist only of latencies of the first response in each component. Similarly, corrected rates in  $\tau^D$  for groups C and D are no more than reciprocal mean  $PS^R_P$ , and overall  $\tau^D$  rates are most strongly determined simply by  $S^R$  duration.

Figure 3 presents  $\tau^A$  running rates for Group CD, showing the same separation among  $\tau$  schedules as found for Group AB, although this separation appears to be an increasing function of cycle length in the present case. Table 6 confirms that both  $\tau^D$  and  $\tau^A$  running rates were directly related to  $p(S^R|R\cdot\tau^A)$  for all cycle lengths studied with Group X. For cycle lengths of 100 and 500 sec (experimental points 4 and 5), Group X also confirmed other findings reported above for Group AB: The

characteristic pattern of responding during  $\tau^{\Delta}$  when cycle length was 100 sec was obtained, the temporal discrimination part of the function was missing when cycle length was 500 sec, and both overall and corrected rates increased early in  $\tau^{\Delta}$  with no such change in running rate. The last result was also obtained to some extent with the 50 sec cycle length. Group CD's within-cycle running rates (Figure 4) show the characteristic dip and recovery of running rate in  $\tau^{\Delta}$  for schedules 0 and 1 at cycle lengths of 50 and 100 sec, but not at 10 sec; again, the 500 sec functions (experimental point 1) show the  $\tau^D - \tau^{\Delta}$  rate discrimination without the temporal discrimination. The failure of Group CD's Schedule 2 functions to show the characteristic form despite the 10:1 ratio of  $p(S^R|R \cdot \tau^D)$  to  $p(S^R|R \cdot \tau^{\Delta})$  [1.00:0.10], as well as the positive slope of these functions early in  $\tau^{\Delta}$  (except for the 10 sec cycle length, experimental point 4), suggest that  $p(S^R) = 0.10$  may maintain higher running rates than very high probabilities. Tables 4 and 5 show that overall and corrected rates were higher in  $\tau^{\Delta}$  than  $\tau^D$  for Schedule 2 generally, and this finding is consistent with the corrected rates for  $p(S^R) = 1.00$  versus other RR schedules reported by Brandauer (1958).

The data show that temporal discrimination may be obscured by making cycle lengths as long as components, and that both temporal and  $\tau^D - \tau^{\Delta}$  schedule discriminations may be reduced by making cycle length short enough. The latter finding raises the possibility of using cycle length as a psychophysical measure: Threshold for two stimulus conditions could be given by the maximum alternation rate which supports some arbitrary level of differential responding to the two conditions. The variables  $p(S^R|R \cdot \tau^D)$  and  $p(S^R|R \cdot \tau^{\Delta})$  also control both temporal and  $\tau^D - \tau^{\Delta}$  schedule discrimination. As with cycle length, discrimination may be

be reduced by going to either of two extremes: in this case, either by making  $p(S^R | R \cdot \tau^D)$  very close to  $p(S^R | R \cdot \tau^A)$ , or else simply by making  $p(S^R | R \cdot \tau^A)$  high enough to maintain very high rates.

Cumming and Schoenfeld (1963) reported an inverse relationship between corrected rate and  $\tau$  cycle length, and the "TAU-DEE ONLY", "TAU-DELTA ONLY" parts of tables 4 and 5 (groups C and D) confirm this finding for both  $\tau^D$  and  $\tau^A$  corrected rates under schedules 0 and 1, but only for  $\tau^D$  corrected rates under Schedule 2 (where  $\tau^A$  corrected rates were approximately constant across cycle lengths). The data for Group X (Table 6) confirm this same finding for  $\tau^A$  corrected rates under schedules 0 and 1 and for  $\tau^D$  corrected rates under Schedule 2. This group's  $\tau^D$  corrected rates for Schedule 0 and Schedule 1 passed through minima at cycle lengths of 50 and 100 sec respectively, while  $\tau^A$  corrected rates showed no simple relationship to cycle length. The difference in order of exposure to the various cycle lengths between Group X and the Cumming and Schoenfeld subjects makes the importance of these latter discrepancies difficult to assess.

The shape of the within-cycle rate functions reported above suggested that schedule and temporal discriminations are operating concurrently under a  $\tau$  schedule. Another type of discrimination could also be inferred from the data, discrimination of the amount of time elapsed since  $S^R$ . Analysis of this type of discrimination was performed separately for  $\tau^D$  and  $\tau^A$  for all groups at all points; the two sets of functions obtained were so similar in shape that they were pooled together for presentation here. Appendix A (Tables 7-11) contains the obtained running rate functions from all five experimental points for all five groups separately. For summary purposes, the data for groups AB and CD are

plotted in Figs. 5 and 6. The functions are sometimes complex because of interactions between opportunities for unreinforced responses to occur and cycle length<sup>2</sup> and because of the close relationship between time since  $S^R$  and time since (or time until)  $\tau^D$  for schedules 0 and 1. Despite these complexities, Figs. 5 and 6 show the broad generality of the inverse relationship between time-since- $S^R$  and running rate. The similarity of the Schedule 2 functions to the initial drop of both the Schedule 0 and Schedule 1 functions suggests that the intrusion of the reinforcing stimulus was always sufficient to initiate a high rate of responding, and only if the <sup>subject</sup>~~animal~~ was not soon thereafter interrupted by another  $S^R$  would behavior indicative of differences in the schedule parameters become evident. Thus, these data suggest the correctness of considering  $S^R$ s as stimuli which produce perturbations when intruded into a stream of behavior, not simply as strengtheners of some response class. The dependence of the types of discrimination maintained by  $\tau$  schedules on the density of  $S^R$  intrusion and the interactions of  $S^R$  intrusion with a stream of behavior are considered more fully in the Discussion section below.

Post-reinforcement pause times (the times from the end of  $S^R$  to the next response) are presented for Group AB in Figure 7 and for Group CD in Figure 8. No simple relationship exists between  $PS^R_P$  and length of exposure to the 100 sec cycle length (Fig. 7), but the largest differentiation among schedule 0, 1, and 2  $PS^R_P$ s is seen at experimental point 4 for Group CD, where the 10 sec cycle length did not support any rate differences between  $\tau^D$  and  $\tau^A$ . The consistent decrease in  $PS^R_P$  with increasing  $p(S^R|R \cdot \tau^A)$  (schedules 0, 1, and 2 in order) is in

agreement with the  $PS^R_P$  data for RR schedules reported by Farmer and Schoenfeld (1967). The longer  $PS^R_P$ s for Group AB [ $p(S^R|R\cdot\tau^D) = 0.1$ ] than for Group CD [ $p(S^R|R\cdot\tau^D) = 1.0$ ] is in agreement with the finding by Snapper (1962) that  $PS^R_P$ s decrease with increases in  $p(S^R|R\cdot\tau^D)$ . These data extend the finding to cases where  $p(S^R|R\cdot\tau^{\frac{A}{D}})$  is greater than zero.

Mean  $IS^R_T$ s (the time between reinforcements) have been calculated and plotted in Figures 9 and 10 for groups AB and CD. These data provide a measure of the control over reinforcement rate provided by the schedule parameters and at the same time are influenced by the rate at which the animals respond. The influence of reinforcement rate on the pattern of responding obtained was suggested in connection with the rate-as-a-function-of-time-since- $S^R$  data of Figs. 5 and 6; some of the interactions among  $p(S^R)$  and cycle length parameters are considered in the Discussion section. Figures 9 and 10 indicate that increasing either  $p(S^R|R\cdot\tau^D)$  or  $p(S^R|R\cdot\tau^A)$  was sufficient to decrease mean  $IS^R_T$ .

Under a simple RR schedule, where  $p(S^R)$  does not change with time, the distribution of  $R/S^R$  (responses per reinforcement) is purely a calibration of the apparatus used to generate the probabilities of reinforcement. (Such a calibration based on the data from the present experiment indicated obtained probabilities of 0.097 and 0.011 for programmed probabilities of 0.10 and 0.01.) With a  $\tau$  schedule, however, obtained  $R/S^R$  ratios depend on how subjects divide their responses between  $\tau^D$  and  $\tau^A$  portions of the  $\tau$  cycles whenever  $p(S^R|R\cdot\tau^D)$  is greater than  $p(S^R|R\cdot\tau^A)$ . The larger the proportion of responses in  $\tau^D$ , the lower the average obtained  $R/S^R$  for the entire cycle will be. For

Group AB, only schedules 0 and 1 could support such a behavioral effect, and Fig. 8 provides some indication that mean  $R/S^R$  did decrease for these schedules with prolonged exposure to a  $\tau$  cycle length of 100 sec. Corresponding data for Group CD (Figure 12) indicate that repeated exposure to the 100 sec cycle length (Points 2 and 5) produced smaller  $R/S^R$ s, and that  $R/S^R$  was inversely related to cycle length (Points 1 and 4, for example). Like  $IS^{RT}$ ,  $R/S^R$  is both a dependent variable, in this case manipulated by  $p(S^R)$  parameters, and an independent variable determined by the subjects' relative response rates in  $\tau^D$  and  $\tau^A$ . The interactions of these two features of  $R/S^R$  are dealt with further in the Discussion section. Cumming and Schoenfeld (1963) found that  $R/S^R$  went through a maximum as cycle length was varied from 600 to 7.5 sec; Group X animals confirmed this finding for Schedules 0 and 1, as the following mean  $R/S^R$ s show:

| Cycle Length: | 1    | 10   | 50    | 100  | 500  |
|---------------|------|------|-------|------|------|
| Schedule 0:   | 39.9 | 58.4 | 102.3 | 70.3 | 18.6 |
| Schedule 1:   | 33.7 | 39.7 | 50.3  | 48.5 | 36.7 |
| Schedule 2:   | 10.6 | 10.6 | 11.0  | 10.4 | 10.4 |

Figure 12 (Group CD), however, indicates only an increase in  $R/S^R$  with decreasing cycle lengths for schedules 0 and 1, and constant  $R/S^R$  for Schedule 2. The Group X results may be accounted for in the same manner as Cumming and Schoenfeld explained their data: at long cycle lengths the subjects discriminate  $\tau^D$  from  $\tau^A$  and respond less during the low  $p(S^R)$  part of the cycle. When cycle length decreases enough, subjects become "random responders" with regard to the  $\tau$  cycle, so that more responses fall in  $\tau^A$  and  $R/S^R$  increases. At very short cycle lengths,

most  $S^R$ 's begin in  $\tau^D$  but extend well into  $\tau^A$ , encroaching on the time available for responding in  $\tau^A$ , decreasing the  $R/S^R$  ratio again. For Group CD, even the 10 sec cycle length did not improve the  $R/S^R$  ratio because the first response in each  $\tau^D$  produced  $S^R$ ; since  $\tau^D$  and  $S^R$  were both just 2 sec long, only one response could be made in each  $\tau^D$ , while essentially all of each  $\tau^A$  (8 sec) was available for responding.

Figure 1

Running rates in responses-per-second for the 10 rats in Group AB, pooled across the last six sessions of experimental points 2 through 5 (there were 36 sessions per experimental point). Open data points are for  $\tau^D$  rates, closed for  $\tau^A$ . The  $p(S^R | R \cdot \tau^D)$  was always 0.10, and the  $p(S^R | R \cdot \tau^A)$  was 0.00, 0.01, and 0.10 for schedules 0, 1, and 2 respectively. Cycle length was always 100 sec, and  $\bar{\tau}$  was always 0.2. The reversal of the relationship between  $\tau^D$  and  $\tau^A$  rates for Schedule 2, compared to this relationship for schedules 0 and 1, is dealt with in the text.

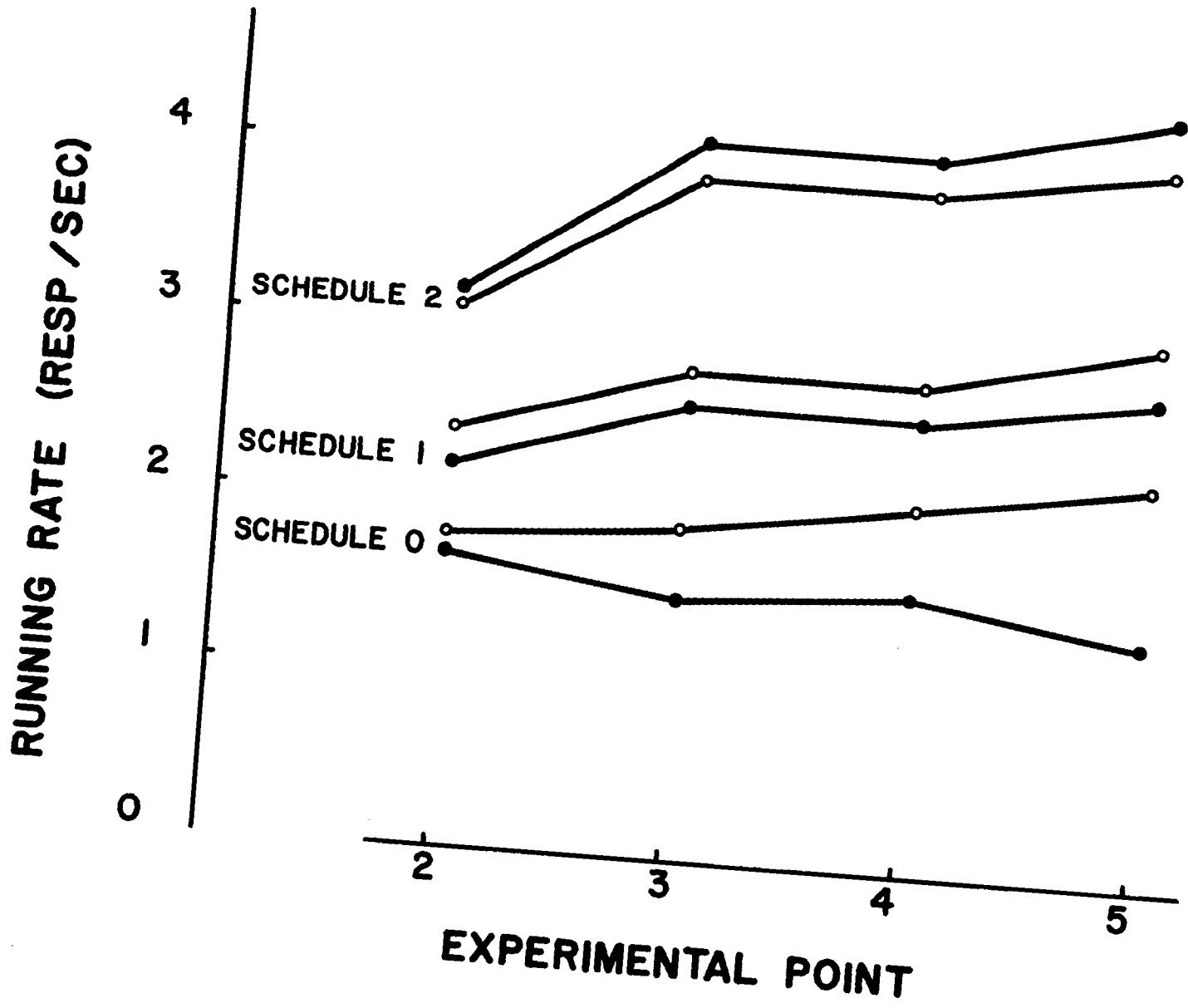


Figure 2

Running rates within  $\tau$  cycles for Group AB. The thin vertical lines separate  $\tau^D$  from  $\tau^A$ . Each  $\tau$  cycle was divided into 50 intervals, and running rates were calculated after pooling responses,  $IS^R_T$  time, and  $PS^R_P$  time across sessions (six per experimental point) and subjects (10) for each of the 50 intervals. Cycle length was 500 sec for the 48 sessions of experimental point 1, and 100 sec for the 36 sessions at each of the following four experimental points.

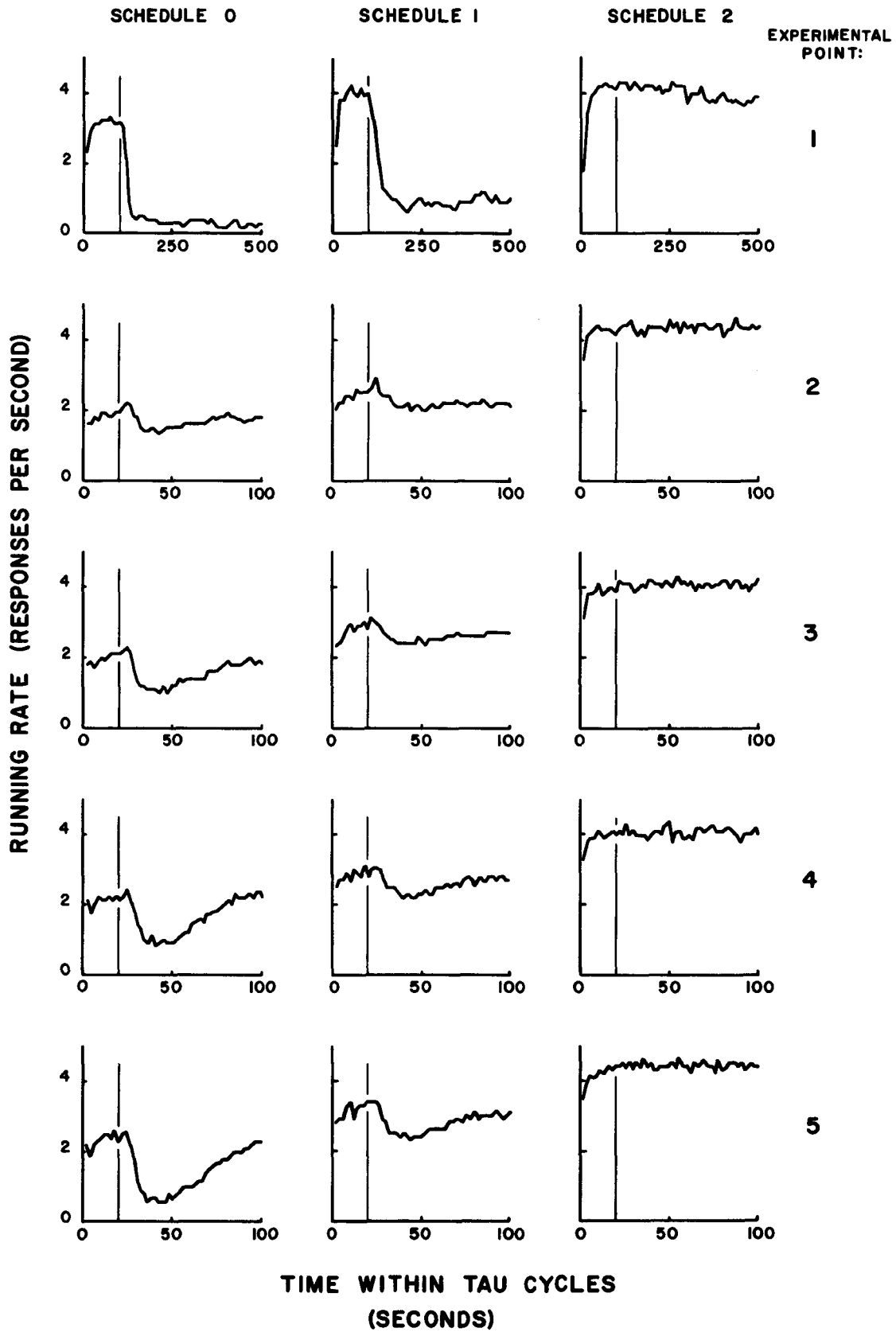


Figure 3

Running rate during  $\tau^{\Delta}$  for Group CD at various cycle lengths. Open circles are for Schedule 0 [ $p(S^R|R\cdot\tau^{\Delta}) = 0.00$ ], centered circles for Schedule 1 [ $p(S^R|R\cdot\tau^{\Delta}) = 0.01$ ], and filled circles for Schedule 2 [ $p(S^R|R\cdot\tau^{\Delta}) = 0.10$ ]. The  $p(S^R|R\cdot\tau^D)$  was always 1.00, and  $\bar{\tau}$  was always 0.2. Unconnected data points are for the second exposure to cycle length of 100 sec. See Table 1 for the sequence and duration of exposure to the various cycle lengths.

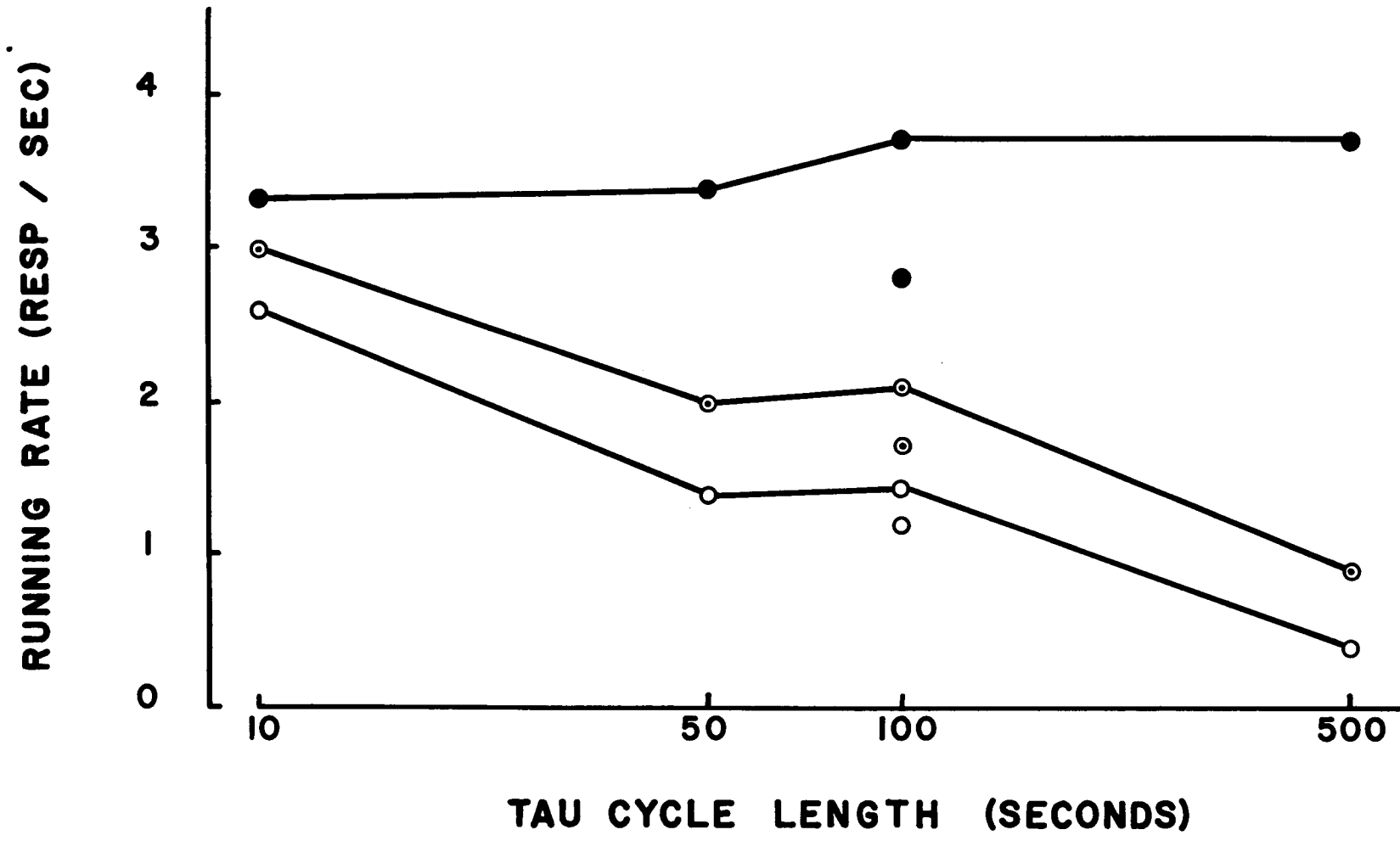


Figure 4

Running rates within  $\tau$  cycles for Group CD, determined in the same manner as the functions in Fig. 2. No running rates could be calculated during  $\tau^D$  because  $p(S^R | R \cdot \tau^D)$  was always 1.00. Cycle length varied across experimental points as outlined in Table 1, and as indicated by the maxima of the various abscissae. Limitation in the resolution of the recording apparatus to 0.1 sec (see Appendix B) made the rates at the beginning of the functions for very short cycle lengths unreliable, and so the data for experimental point 4 (10 sec cycle length) do not show the obtained values for the first two class intervals (0.4 sec) of each  $\tau^A$ .

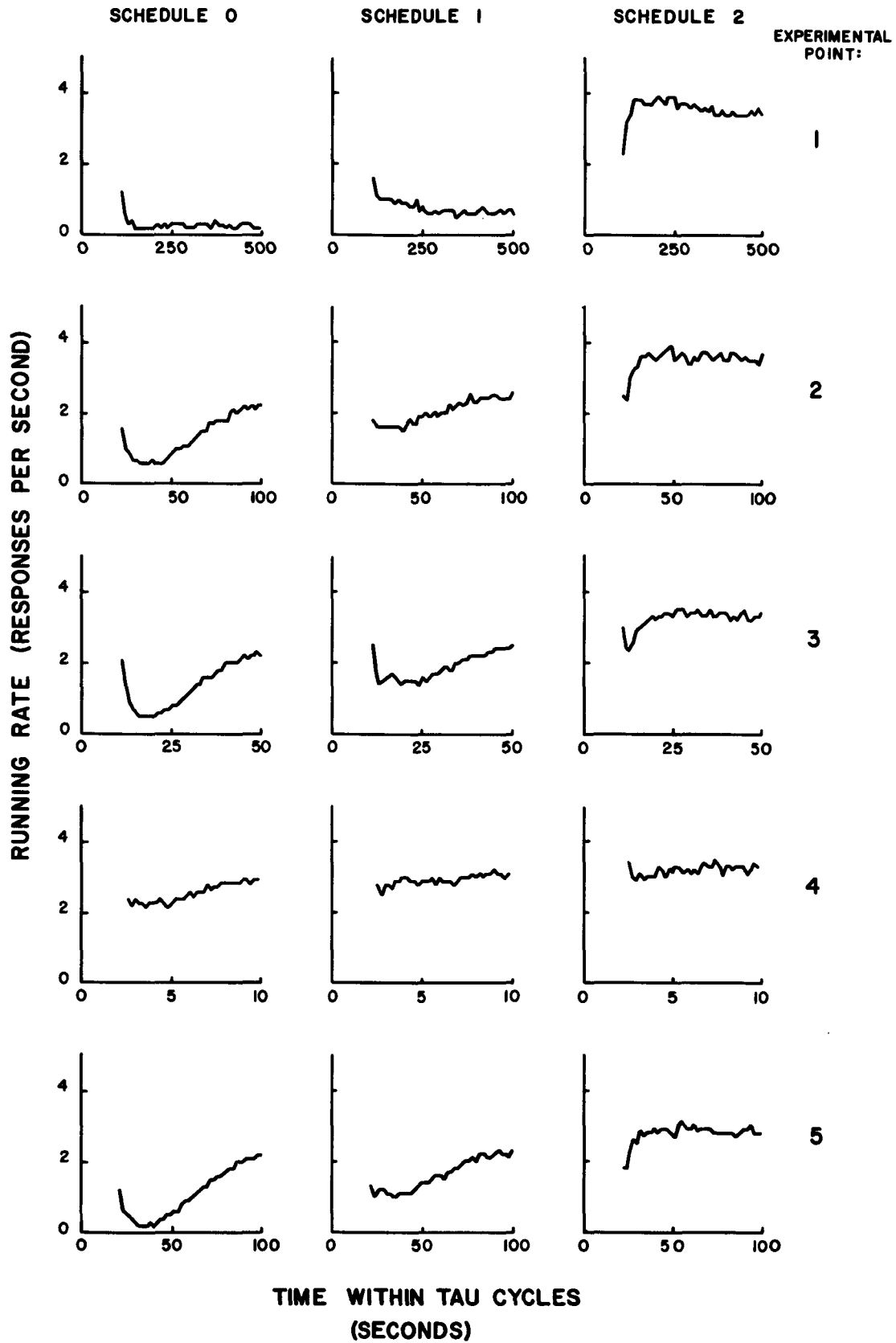
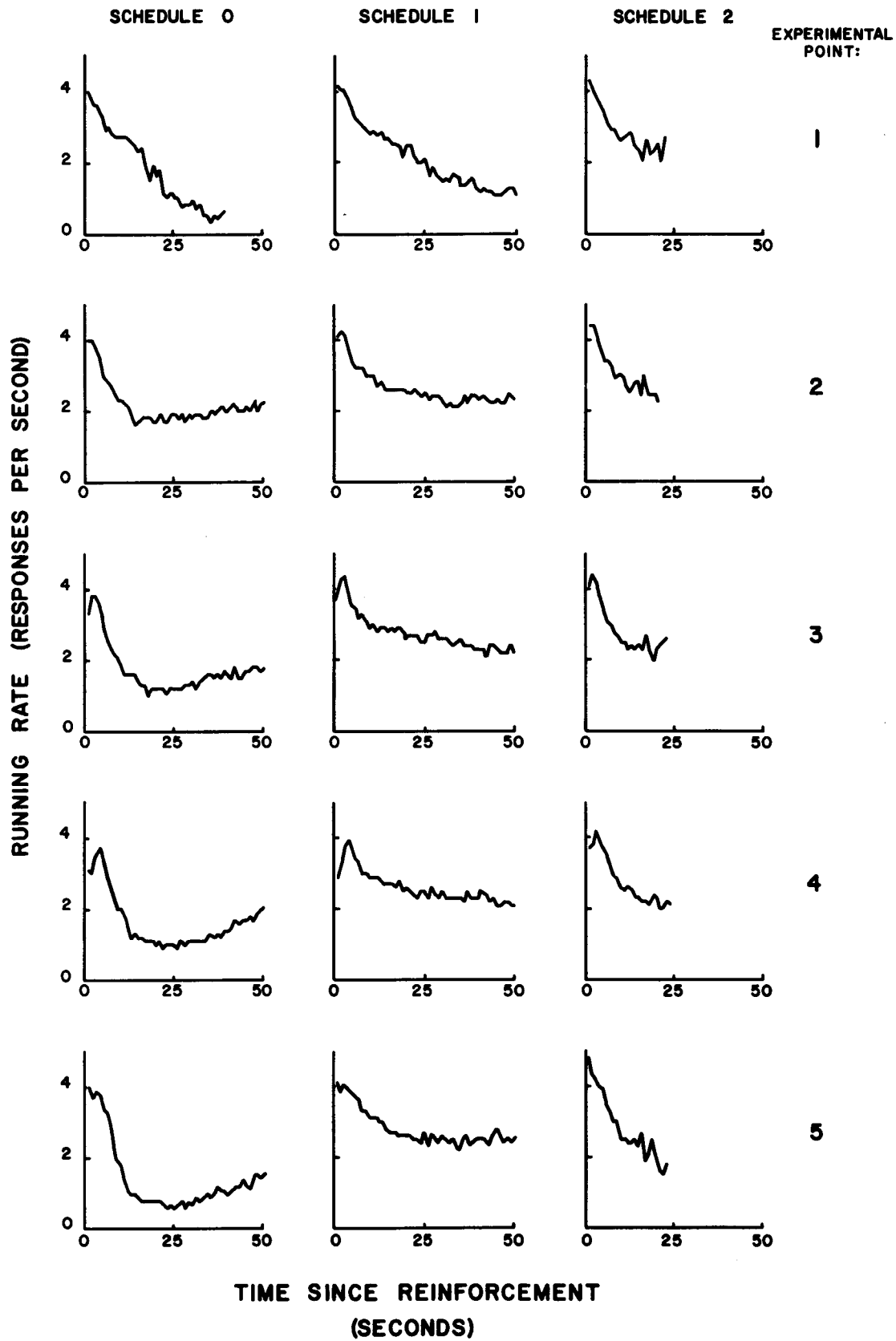


Figure 5

Running rate as a function of time since  $S^R$  for Group AB. Number of responses,  $IS^R_T$  time, and  $PS^R_P$  time were accumulated separately for each of 50 class intervals across subjects and sessions. Because decreasing opportunities  $\lambda$  to respond with increasing time since  $S^R$  produces small (and hence variable) samples with which to calculate rates, the data are plotted only until the number of responses in a class interval drops below 20. Because  $\tau^D$  and  $\tau^\Delta$  functions were so similar in form (except that  $\tau^D$  functions could never extend beyond the duration of  $\tau^D$ ),  $\tau^D$  and  $\tau^\Delta$  data are pooled together in this figure.



## Figure 6

Running rate in  $\tau^{\Delta}$  as a function of time since  $S^R$  for Group CD.  
Data were calculated in the same manner as outlined in the caption for Fig. 5. The cause of the dips in rate at Experimental Point 4 (cycle length = 10 sec) was the convention of excluding reinforced responses from these rate calculations; see footnote 2.

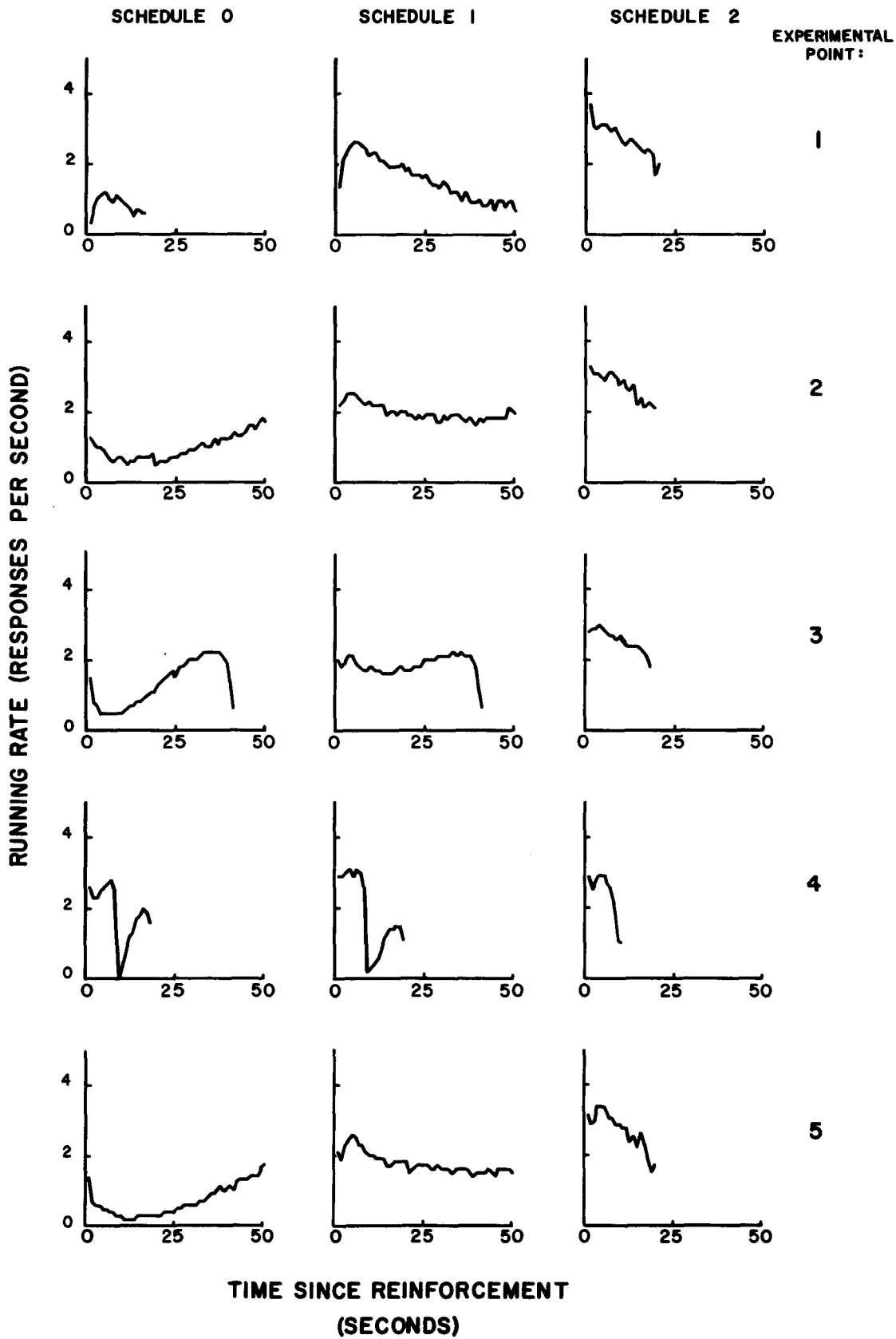
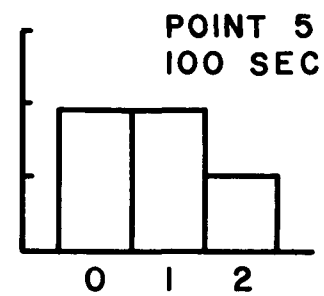
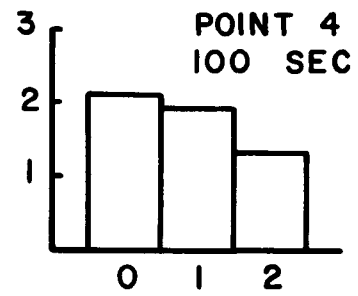
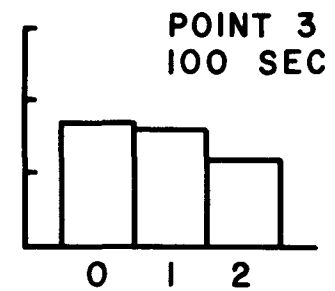
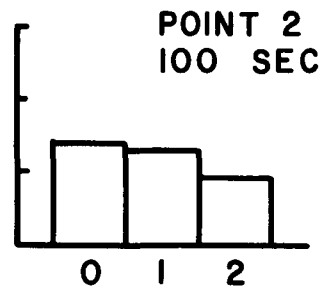
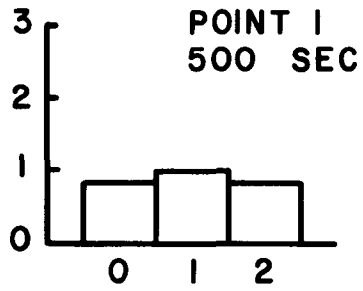


Figure 7

Mean  $PS^R_P$  for the three  $\tau$  schedules (0, 1, 2) at each experimental point for Group AB. Data for  $PS^R_P$ s in both  $\tau^D$  and  $\tau^A$  are pooled for each schedule.  $PS^R_P$ s beginning during one schedule and ending during another are excluded.

MEAN PS<sup>R</sup>P (SECONDS)

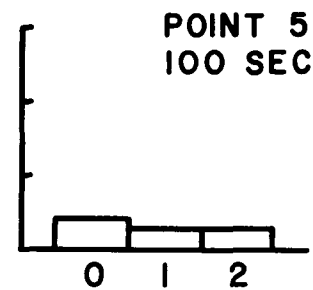
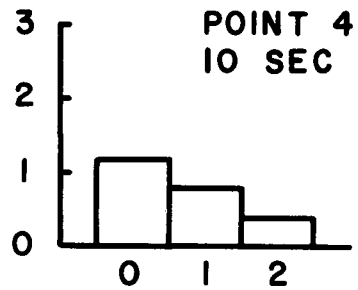
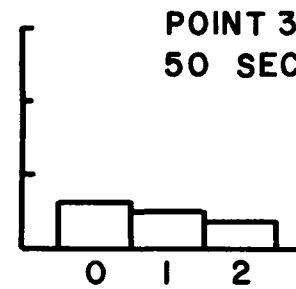
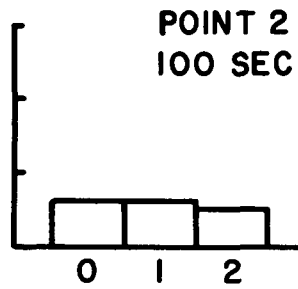
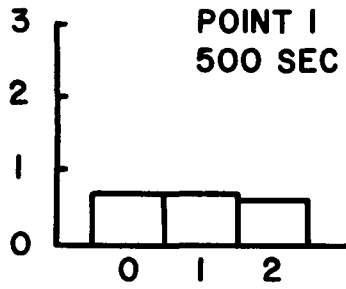


SCHEDULE

**Figure 8**

PS<sup>R</sup>P data for Group CD, treated the same way as the data for Group AB, Fig. 7.

MEAN PSRP (SECONDS)



SCHEDULE

## Figure 9

Mean  $IS^R T$  for each schedule at each experimental point for Group AB. Means were calculated by dividing total  $IS^R T$  time for each schedule by the number of  $S^R$ s which ended in that schedule.

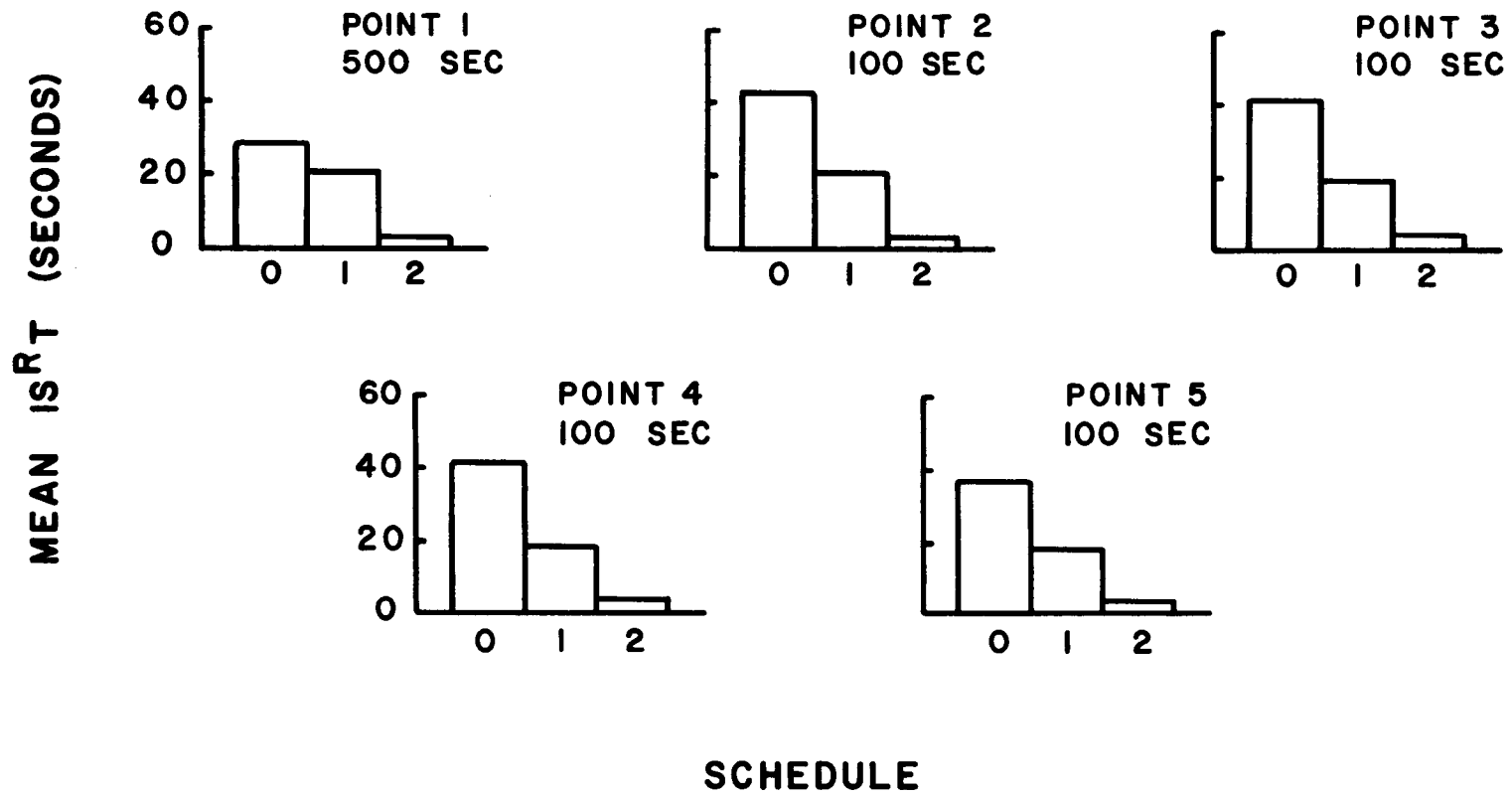
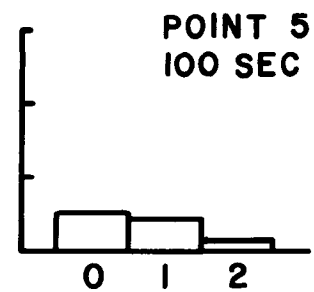
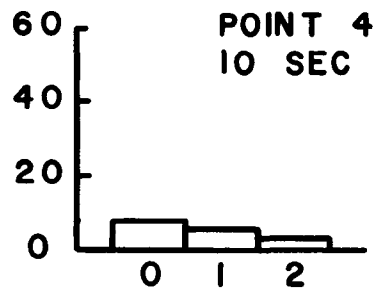
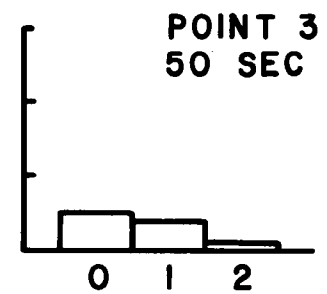
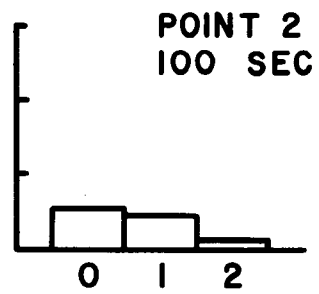
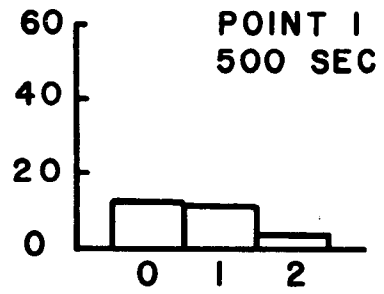


Figure 10

Mean  $IS^R$  Ts for Group CD calculated as for Group AB, Fig. 9.

MEAN IS<sup>R</sup>T (SECONDS)

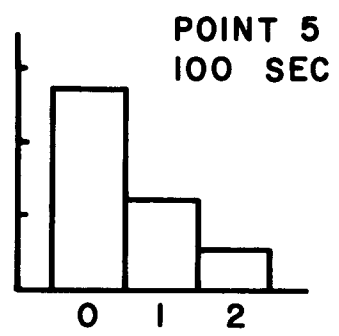
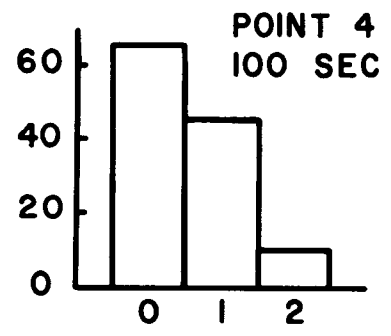
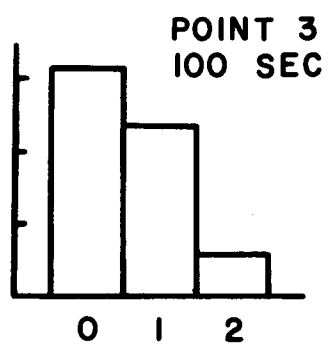
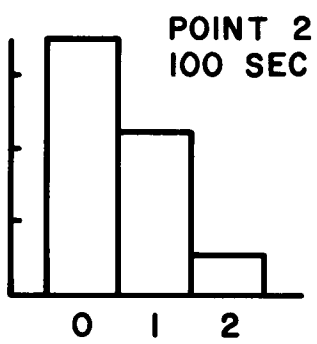
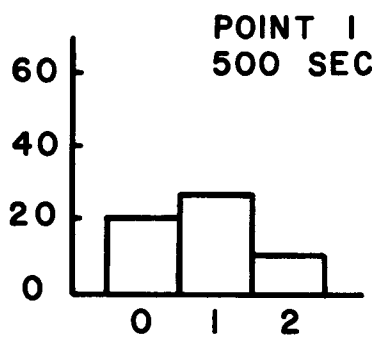


SCHEDULE

**Figure 11**

Mean responses per reinforcement for the three  $\tau$  schedules at each experimental point for Group AB. Means were obtained by dividing total responses in each schedule by the total number of S<sup>R</sup>s ending while the schedule was in effect.

RESPONSES PER REINFORCEMENT

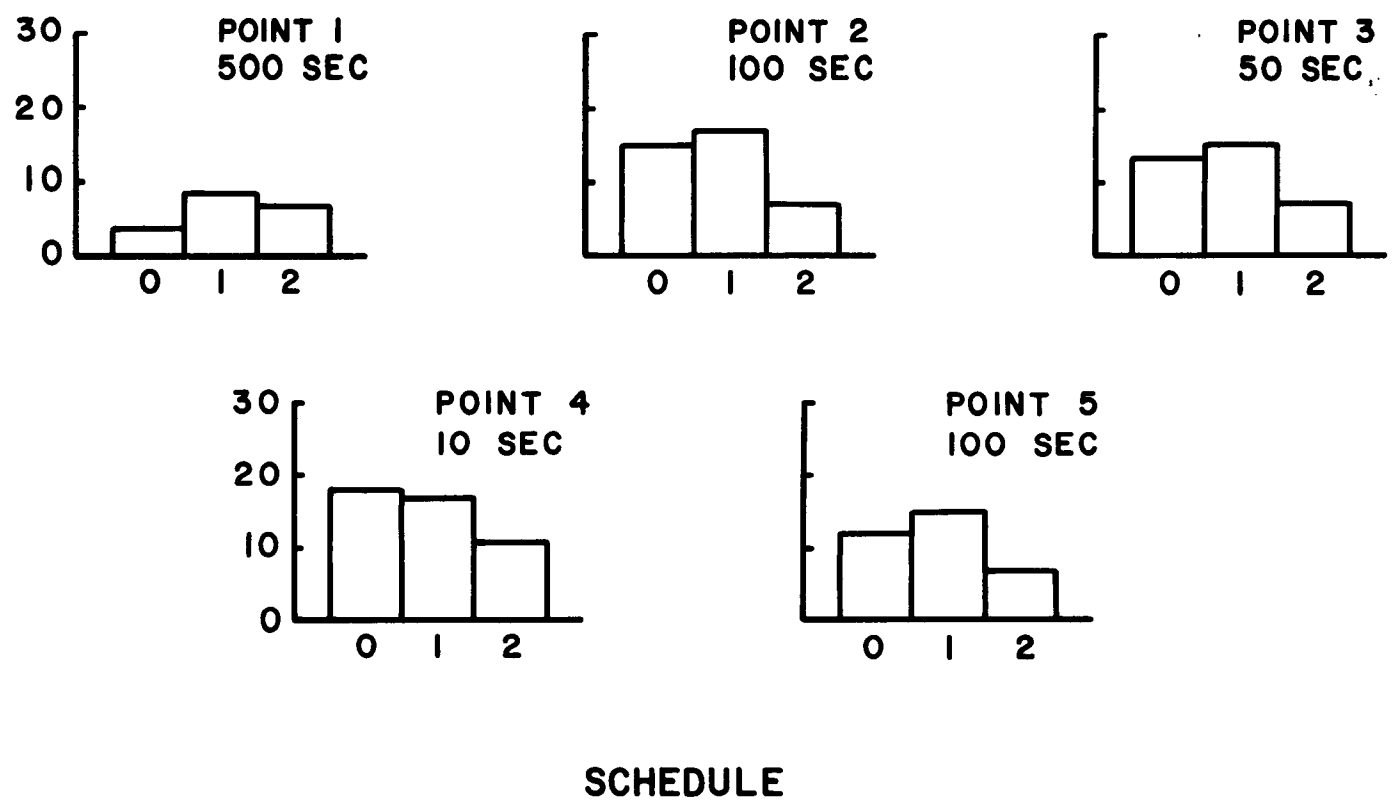


SCHEDULE

**Figure 12**

Mean responses per reinforcement for Group CD calculated and plotted as for Group AB, Fig. 11.

RESPONSES PER REINFORCEMENT



## Tables 2 - 6

The dashed line between class intervals 10 and 11 marks the transition from  $\tau^D$  to  $\tau^A$ , with the exception of the first three pages of Table 6. In this case (Experimental Point 1 for Group X, where the cycle length was one second), the  $\tau^D - \tau^A$  transition is between class intervals 2 and 3, and the dashed line marks the end of the cycle.

TABLE 2

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP A          | RAT(S)       | 1                         | 6            | 14  | 20           | 21             | POINT 1      |
|------------------|--------------|---------------------------|--------------|-----|--------------|----------------|--------------|
| CYCLE LENGTH=500 |              | CLASS INTERVAL WIDTH=10.0 |              |     |              |                | SCHEDULE 0   |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE | CORRECTED RATE | RUNNING RATE |
| 1                | 1.4          | 2.0                       | 2.3          | 26  | 0.3          | 0.3            | 0.3          |
| 2                | 1.5          | 2.3                       | 2.8          | 27  | 0.2          | 0.2            | 0.2          |
| 3                | 1.5          | 2.4                       | 3.0          | 28  | 0.2          | 0.2            | 0.2          |
| 4                | 1.7          | 2.5                       | 3.1          | 29  | 0.1          | 0.1            | 0.1          |
| 5                | 1.8          | 2.7                       | 3.2          | 30  | 0.2          | 0.2            | 0.2          |
| 6                | 1.7          | 2.6                       | 3.2          | 31  | 0.2          | 0.2            | 0.2          |
| 7                | 1.5          | 2.3                       | 2.9          | 32  | 0.3          | 0.3            | 0.3          |
| 8                | 1.8          | 2.6                       | 3.1          | 33  | 0.2          | 0.2            | 0.2          |
| 9                | 1.7          | 2.5                       | 2.9          | 34  | 0.2          | 0.2            | 0.2          |
| 10               | 1.5          | 2.5                       | 2.9          | 35  | 0.2          | 0.2            | 0.2          |
| -----            |              |                           |              |     |              |                |              |
| 11               | 2.8          | 2.9                       | 3.1          | 36  | 0.4          | 0.4            | 0.4          |
| 12               | 1.9          | 1.9                       | 1.9          | 37  | 0.3          | 0.3            | 0.3          |
| 13               | 0.8          | 0.8                       | 0.8          | 38  | 0.1          | 0.1            | 0.1          |
| 14               | 0.5          | 0.5                       | 0.5          | 39  | 0.2          | 0.2            | 0.2          |
| 15               | 0.4          | 0.4                       | 0.4          | 40  | 0.2          | 0.2            | 0.2          |
| 16               | 0.4          | 0.4                       | 0.4          | 41  | 0.3          | 0.3            | 0.3          |
| 17               | 0.5          | 0.5                       | 0.5          | 42  | 0.2          | 0.2            | 0.2          |
| 18               | 0.4          | 0.4                       | 0.4          | 43  | 0.3          | 0.3            | 0.3          |
| 19               | 0.4          | 0.4                       | 0.4          | 44  | 0.1          | 0.1            | 0.1          |
| 20               | 0.5          | 0.5                       | 0.5          | 45  | 0.1          | 0.1            | 0.1          |
| 21               | 0.4          | 0.4                       | 0.4          | 46  | 0.2          | 0.2            | 0.2          |
| 22               | 0.3          | 0.3                       | 0.3          | 47  | 0.2          | 0.2            | 0.2          |
| 23               | 0.3          | 0.3                       | 0.3          | 48  | 0.2          | 0.2            | 0.2          |
| 24               | 0.4          | 0.4                       | 0.4          | 49  | 0.3          | 0.3            | 0.3          |
| 25               | 0.4          | 0.4                       | 0.4          | 50  | 0.3          | 0.3            | 0.3          |
| TAU-DEE ONLY     |              |                           |              |     | 1.6          | 2.4            | 2.9          |
| TAU-DELTA ONLY   |              |                           |              |     | 0.4          | 0.4            | 0.4          |
| TOTAL            |              |                           |              |     | 0.6          | 0.7            | 0.7          |

TABLE 2 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
(CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
(ALL RATES IN RESPONSES-PER-SECOND)

| GROUP A          | RAT(S)       | 1                         | 6            | 14  | 20             | 21             | POINT 1      |     |
|------------------|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|-----|
| CYCLE LENGTH=500 |              | CLASS INTERVAL WIDTH=10.0 |              |     |                |                | SCHEDULE 1   |     |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 1.7          | 2.2                       | 2.5          | 26  | 1.0            | 1.0            | 1.0          |     |
| 2                | 1.7          | 2.7                       | 3.6          | 27  | 1.1            | 1.1            | 1.1          |     |
| 3                | 1.8          | 2.8                       | 3.8          | 28  | 1.0            | 1.0            | 1.0          |     |
| 4                | 1.9          | 2.8                       | 3.8          | 29  | 1.0            | 1.0            | 1.0          |     |
| 5                | 1.5          | 2.8                       | 4.2          | 30  | 1.0            | 1.1            | 1.1          |     |
| 6                | 2.0          | 3.2                       | 4.2          | 31  | 0.9            | 1.0            | 1.0          |     |
| 7                | 1.9          | 3.0                       | 4.0          | 32  | 0.9            | 0.9            | 0.9          |     |
| 8                | 2.0          | 3.1                       | 4.0          | 33  | 0.9            | 0.9            | 0.9          |     |
| 9                | 1.8          | 2.9                       | 3.7          | 34  | 0.8            | 0.8            | 0.8          |     |
| 10               | 2.0          | 3.1                       | 3.9          | 35  | 0.7            | 0.7            | 0.7          |     |
| -----            |              |                           |              |     |                |                |              |     |
| 11               | 3.0          | 3.2                       | 3.4          | 36  | 1.1            | 1.1            | 1.1          |     |
| 12               | 2.9          | 3.0                       | 3.0          | 37  | 0.9            | 0.9            | 0.9          |     |
| 13               | 2.0          | 2.0                       | 2.1          | 38  | 0.8            | 0.8            | 0.8          |     |
| 14               | 1.3          | 1.4                       | 1.4          | 39  | 0.9            | 0.9            | 0.9          |     |
| 15               | 1.3          | 1.3                       | 1.3          | 40  | 1.0            | 1.0            | 1.0          |     |
| 16               | 1.2          | 1.2                       | 1.2          | 41  | 0.9            | 1.0            | 1.0          |     |
| 17               | 1.0          | 1.0                       | 1.0          | 42  | 0.8            | 0.9            | 0.9          |     |
| 18               | 1.1          | 1.1                       | 1.1          | 43  | 1.0            | 1.0            | 1.0          |     |
| 19               | 1.1          | 1.1                       | 1.1          | 44  | 0.7            | 0.8            | 0.8          |     |
| 20               | 0.9          | 0.9                       | 1.0          | 45  | 0.8            | 0.8            | 0.8          |     |
| 21               | 0.7          | 0.7                       | 0.7          | 46  | 1.1            | 1.1            | 1.1          |     |
| 22               | 0.8          | 0.8                       | 0.9          | 47  | 1.0            | 1.0            | 1.0          |     |
| 23               | 1.1          | 1.1                       | 1.1          | 48  | 0.9            | 0.9            | 0.9          |     |
| 24               | 1.3          | 1.4                       | 1.5          | 49  | 0.8            | 0.8            | 0.8          |     |
| 25               | 1.3          | 1.3                       | 1.3          | 50  | 0.8            | 0.8            | 0.8          |     |
|                  |              |                           |              |     | TAU-DEE ONLY   | 1.8            | 2.9          | 3.7 |
|                  |              |                           |              |     | TAU-DELTA ONLY | 1.1            | 1.1          | 1.1 |
|                  |              |                           |              |     | TOTAL          | 1.2            | 1.4          | 1.4 |

TABLE 2 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP A          | RAT(S)       |                |              | CLASS INTERVAL WIDTH=10.0 |                |                | POINT 1      |     |
|------------------|--------------|----------------|--------------|---------------------------|----------------|----------------|--------------|-----|
| CYCLE LENGTH=500 | 1            | 6              | 14           | 20                        | 21             | SCHEDULE 2     |              |     |
| INT              | OVERALL RATE | CORRECTED RATE | RUNNING RATE | INT                       | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 1.2          | 1.6            | 2.0          | 26                        | 2.0            | 3.4            | 4.4          |     |
| 2                | 1.7          | 2.7            | 3.8          | 27                        | 1.9            | 3.1            | 4.2          |     |
| 3                | 1.8          | 2.9            | 4.1          | 28                        | 1.8            | 3.3            | 4.4          |     |
| 4                | 1.9          | 2.9            | 4.0          | 29                        | 2.0            | 3.3            | 4.3          |     |
| 5                | 1.9          | 3.2            | 4.1          | 30                        | 1.8            | 3.0            | 4.0          |     |
| 6                | 1.9          | 3.1            | 4.4          | 31                        | 1.9            | 3.2            | 4.2          |     |
| 7                | 2.1          | 3.3            | 4.2          | 32                        | 2.0            | 3.4            | 4.4          |     |
| 8                | 1.8          | 3.2            | 4.4          | 33                        | 1.9            | 3.3            | 4.4          |     |
| 9                | 1.7          | 3.0            | 4.3          | 34                        | 2.0            | 3.4            | 4.5          |     |
| 10               | 2.1          | 3.2            | 4.1          | 35                        | 1.9            | 3.2            | 4.1          |     |
| -----            |              |                |              |                           |                |                |              |     |
| 11               | 2.0          | 3.3            | 4.4          | 36                        | 2.1            | 3.3            | 4.1          |     |
| 12               | 1.9          | 3.2            | 4.4          | 37                        | 2.3            | 3.5            | 4.1          |     |
| 13               | 1.9          | 3.2            | 4.6          | 38                        | 2.0            | 3.3            | 4.1          |     |
| 14               | 2.0          | 3.4            | 4.4          | 39                        | 2.1            | 3.4            | 4.5          |     |
| 15               | 1.8          | 3.1            | 4.4          | 40                        | 2.0            | 3.3            | 4.4          |     |
| 16               | 1.9          | 3.2            | 4.1          | 41                        | 1.9            | 3.3            | 4.0          |     |
| 17               | 1.9          | 3.2            | 4.2          | 42                        | 2.0            | 3.1            | 4.1          |     |
| 18               | 1.9          | 3.3            | 4.2          | 43                        | 1.9            | 3.4            | 4.3          |     |
| 19               | 2.2          | 3.5            | 4.3          | 44                        | 2.0            | 3.4            | 4.6          |     |
| 20               | 1.8          | 3.2            | 4.3          | 45                        | 2.0            | 3.3            | 4.1          |     |
| 21               | 2.1          | 3.4            | 4.4          | 46                        | 1.9            | 3.1            | 3.9          |     |
| 22               | 1.9          | 3.3            | 4.6          | 47                        | 1.8            | 3.1            | 4.0          |     |
| 23               | 2.0          | 3.3            | 4.2          | 48                        | 1.8            | 3.0            | 4.1          |     |
| 24               | 2.0          | 3.3            | 4.2          | 49                        | 2.0            | 3.3            | 4.2          |     |
| 25               | 2.1          | 3.4            | 4.2          | 50                        | 1.9            | 3.1            | 4.0          |     |
|                  |              |                |              |                           | TAU-DEE ONLY   | 1.8            | 2.9          | 3.9 |
|                  |              |                |              |                           | TAU-DELTA ONLY | 2.0            | 3.3          | 4.3 |
|                  |              |                |              |                           | TOTAL          | 1.9            | 3.2          | 4.2 |

TABLE 2 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP A          | RAT(S)       | 1                         | 6            | 14  | 20           | 21             | POINT 2      |
|------------------|--------------|---------------------------|--------------|-----|--------------|----------------|--------------|
| CYCLE LENGTH=100 |              | CLASS INTERVAL WIDTH= 2.0 |              |     |              |                | SCHEDULE 0   |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE | CORRECTED RATE | RUNNING RATE |
| 1                | 1.3          | 1.6                       | 1.6          | 26  | 1.5          | 1.5            | 1.5          |
| 2                | 1.0          | 1.3                       | 1.6          | 27  | 1.4          | 1.4            | 1.4          |
| 3                | 1.0          | 1.2                       | 1.6          | 28  | 1.4          | 1.4            | 1.4          |
| 4                | 1.0          | 1.3                       | 1.6          | 29  | 1.5          | 1.5            | 1.5          |
| 5                | 1.3          | 1.6                       | 1.9          | 30  | 1.5          | 1.5            | 1.5          |
| 6                | 1.1          | 1.5                       | 1.7          | 31  | 1.6          | 1.6            | 1.6          |
| 7                | 1.0          | 1.2                       | 1.5          | 32  | 1.5          | 1.5            | 1.5          |
| 8                | 1.1          | 1.4                       | 1.6          | 33  | 1.4          | 1.4            | 1.4          |
| 9                | 1.0          | 1.3                       | 1.6          | 34  | 1.4          | 1.4            | 1.4          |
| 10               | 1.0          | 1.2                       | 1.6          | 35  | 1.5          | 1.5            | 1.5          |
| -----            |              |                           |              |     |              |                |              |
| 11               | 1.3          | 1.4                       | 1.7          | 36  | 1.6          | 1.6            | 1.6          |
| 12               | 1.7          | 1.7                       | 1.8          | 37  | 1.4          | 1.4            | 1.4          |
| 13               | 1.6          | 1.6                       | 1.7          | 38  | 1.7          | 1.7            | 1.7          |
| 14               | 1.6          | 1.6                       | 1.6          | 39  | 1.7          | 1.7            | 1.7          |
| 15               | 1.5          | 1.5                       | 1.5          | 40  | 1.8          | 1.8            | 1.8          |
| 16               | 1.2          | 1.2                       | 1.2          | 41  | 1.8          | 1.8            | 1.8          |
| 17               | 1.3          | 1.3                       | 1.3          | 42  | 1.7          | 1.7            | 1.7          |
| 18               | 1.3          | 1.3                       | 1.3          | 43  | 1.7          | 1.7            | 1.7          |
| 19               | 1.3          | 1.3                       | 1.3          | 44  | 1.7          | 1.7            | 1.7          |
| 20               | 1.3          | 1.3                       | 1.3          | 45  | 1.4          | 1.4            | 1.4          |
| 21               | 1.2          | 1.2                       | 1.2          | 46  | 1.6          | 1.6            | 1.6          |
| 22               | 1.3          | 1.3                       | 1.3          | 47  | 1.6          | 1.6            | 1.6          |
| 23               | 1.4          | 1.4                       | 1.4          | 48  | 1.7          | 1.7            | 1.7          |
| 24               | 1.4          | 1.4                       | 1.4          | 49  | 1.9          | 1.9            | 1.9          |
| 25               | 1.4          | 1.4                       | 1.4          | 50  | 1.8          | 1.8            | 1.8          |
| TAU-DEE ONLY     |              |                           |              |     | 1.1          | 1.4            | 1.7          |
| TAU-DELTA ONLY   |              |                           |              |     | 1.5          | 1.5            | 1.5          |
| TOTAL            |              |                           |              |     | 1.4          | 1.5            | 1.5          |

TABLE 2 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP A          | RAT(S)       | 1                         | 6            | 14  | 20             | 21             | POINT 2      |     |
|------------------|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|-----|
| CYCLE LENGTH=100 |              | CLASS INTERVAL WIDTH= 2.0 |              |     |                |                | SCHEDULE 1   |     |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 1.5          | 1.8                       | 1.9          | 26  | 1.9            | 1.9            | 2.0          |     |
| 2                | 1.3          | 1.7                       | 2.1          | 27  | 2.0            | 2.1            | 2.1          |     |
| 3                | 1.2          | 1.5                       | 2.0          | 28  | 2.0            | 2.1            | 2.2          |     |
| 4                | 1.4          | 1.8                       | 2.3          | 29  | 2.0            | 2.0            | 2.1          |     |
| 5                | 1.4          | 1.8                       | 2.3          | 30  | 1.9            | 2.0            | 2.0          |     |
| 6                | 1.2          | 1.6                       | 2.0          | 31  | 2.1            | 2.1            | 2.2          |     |
| 7                | 1.3          | 1.7                       | 2.2          | 32  | 2.0            | 2.1            | 2.1          |     |
| 8                | 1.2          | 1.7                       | 2.2          | 33  | 1.9            | 2.0            | 2.1          |     |
| 9                | 1.2          | 1.7                       | 2.2          | 34  | 1.9            | 2.0            | 2.1          |     |
| 10               | 1.2          | 1.6                       | 2.2          | 35  | 2.0            | 2.1            | 2.2          |     |
| -----            |              |                           |              |     |                |                |              |     |
| 11               | 1.7          | 2.0                       | 2.4          | 36  | 2.1            | 2.2            | 2.2          |     |
| 12               | 2.2          | 2.3                       | 2.7          | 37  | 2.1            | 2.2            | 2.2          |     |
| 13               | 2.0          | 2.1                       | 2.2          | 38  | 2.1            | 2.1            | 2.2          |     |
| 14               | 2.0          | 2.1                       | 2.2          | 39  | 2.0            | 2.1            | 2.1          |     |
| 15               | 2.0          | 2.1                       | 2.2          | 40  | 2.0            | 2.1            | 2.2          |     |
| 16               | 2.0          | 2.1                       | 2.2          | 41  | 2.1            | 2.1            | 2.2          |     |
| 17               | 1.8          | 1.9                       | 2.0          | 42  | 2.1            | 2.2            | 2.2          |     |
| 18               | 1.8          | 1.9                       | 1.9          | 43  | 1.9            | 2.0            | 2.1          |     |
| 19               | 1.9          | 2.0                       | 2.1          | 44  | 1.8            | 1.9            | 2.0          |     |
| 20               | 1.9          | 2.0                       | 2.1          | 45  | 1.9            | 2.0            | 2.0          |     |
| 21               | 2.0          | 2.1                       | 2.2          | 46  | 2.1            | 2.2            | 2.2          |     |
| 22               | 1.8          | 1.8                       | 1.9          | 47  | 1.8            | 2.0            | 2.1          |     |
| 23               | 2.0          | 2.0                       | 2.1          | 48  | 2.0            | 2.1            | 2.2          |     |
| 24               | 2.0          | 2.0                       | 2.1          | 49  | 2.0            | 2.1            | 2.2          |     |
| 25               | 1.8          | 1.9                       | 1.9          | 50  | 1.9            | 1.9            | 2.0          |     |
|                  |              |                           |              |     | TAU-DEE ONLY   | 1.3            | 1.7          | 2.2 |
|                  |              |                           |              |     | TAU-DELTA ONLY | 2.0            | 2.0          | 2.1 |
|                  |              |                           |              |     | TOTAL          | 1.8            | 2.0          | 2.1 |

TABLE 2 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP A          | RAT(S)                    |      |      | POINT 2 |                           |            |      |     |
|------------------|---------------------------|------|------|---------|---------------------------|------------|------|-----|
| CYCLE LENGTH=100 | 1                         | 6    | 14   | 20      | 21                        | SCHEDULE 2 |      |     |
|                  | CLASS INTERVAL WIDTH= 2.0 |      |      |         |                           |            |      |     |
| INT              | OVERALL CORRECTED RUNNING |      |      | INT     | OVERALL CORRECTED RUNNING |            |      |     |
|                  | RATE                      | RATE | RATE |         | RATE                      | RATE       | RATE |     |
| 1                | 1.9                       | 2.6  | 3.3  | 26      | 1.8                       | 2.7        | 4.0  |     |
| 2                | 2.0                       | 3.1  | 3.9  | 27      | 2.0                       | 3.3        | 4.3  |     |
| 3                | 1.8                       | 2.8  | 4.0  | 28      | 1.8                       | 2.9        | 4.0  |     |
| 4                | 1.8                       | 3.0  | 4.3  | 29      | 1.7                       | 3.0        | 4.3  |     |
| 5                | 1.9                       | 2.9  | 4.3  | 30      | 1.7                       | 2.7        | 4.3  |     |
| 6                | 1.8                       | 2.8  | 4.1  | 31      | 2.0                       | 3.2        | 4.4  |     |
| 7                | 2.0                       | 3.1  | 4.2  | 32      | 2.0                       | 3.0        | 4.2  |     |
| 8                | 2.1                       | 3.2  | 4.1  | 33      | 2.0                       | 3.2        | 4.3  |     |
| 9                | 2.0                       | 3.1  | 4.1  | 34      | 2.0                       | 3.3        | 4.4  |     |
| 10               | 1.8                       | 2.8  | 4.0  | 35      | 1.8                       | 3.0        | 4.4  |     |
| -----            |                           |      |      |         |                           |            |      |     |
| 11               | 2.0                       | 3.1  | 4.3  | 36      | 1.8                       | 2.9        | 4.3  |     |
| 12               | 1.8                       | 3.0  | 4.4  | 37      | 1.9                       | 3.0        | 4.1  |     |
| 13               | 1.7                       | 2.8  | 4.2  | 38      | 2.0                       | 3.1        | 4.4  |     |
| 14               | 2.0                       | 3.0  | 4.4  | 39      | 1.9                       | 3.0        | 4.3  |     |
| 15               | 2.0                       | 3.1  | 4.1  | 40      | 1.8                       | 3.0        | 3.9  |     |
| 16               | 1.9                       | 3.1  | 4.2  | 41      | 2.0                       | 3.1        | 4.1  |     |
| 17               | 1.9                       | 3.0  | 4.2  | 42      | 1.9                       | 3.1        | 4.3  |     |
| 18               | 1.9                       | 3.1  | 4.2  | 43      | 1.7                       | 2.9        | 4.3  |     |
| 19               | 1.8                       | 3.0  | 4.4  | 44      | 1.7                       | 2.6        | 4.0  |     |
| 20               | 1.8                       | 2.9  | 4.2  | 45      | 1.9                       | 3.1        | 4.1  |     |
| 21               | 1.7                       | 2.8  | 4.1  | 46      | 1.8                       | 2.9        | 4.0  |     |
| 22               | 1.8                       | 3.0  | 4.4  | 47      | 1.8                       | 2.8        | 3.8  |     |
| 23               | 1.7                       | 3.0  | 4.4  | 48      | 2.1                       | 3.3        | 4.3  |     |
| 24               | 1.7                       | 2.7  | 4.1  | 49      | 1.8                       | 2.9        | 4.0  |     |
| 25               | 1.7                       | 3.0  | 4.3  | 50      | 1.9                       | 3.0        | 4.2  |     |
|                  |                           |      |      |         | TAU-DEE ONLY              | 1.9        | 2.9  | 4.0 |
|                  |                           |      |      |         | TAU-DELTA ONLY            | 1.9        | 3.0  | 4.2 |
|                  |                           |      |      |         | TOTAL                     | 1.9        | 3.0  | 4.2 |

TABLE 2 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
(CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
(ALL RATES IN RESPONSES-PER-SECOND)

| GROUP A                   |      | RAT(S) 1 6 14 20 21       |      |                           | POINT 3        |      |      |     |
|---------------------------|------|---------------------------|------|---------------------------|----------------|------|------|-----|
| CYCLE LENGTH=100          |      | CLASS INTERVAL WIDTH= 2.0 |      |                           | SCHEDULE 0     |      |      |     |
| OVERALL CORRECTED RUNNING |      |                           |      | OVERALL CORRECTED RUNNING |                |      |      |     |
| INT                       | RATE | RATE                      | RATE | INT                       | RATE           | RATE | RATE |     |
| 1                         | 1.6  | 1.8                       | 1.9  | 26                        | 1.2            | 1.2  | 1.2  |     |
| 2                         | 1.3  | 1.6                       | 1.8  | 27                        | 1.4            | 1.4  | 1.4  |     |
| 3                         | 0.9  | 1.1                       | 1.5  | 28                        | 1.4            | 1.4  | 1.4  |     |
| 4                         | 1.1  | 1.3                       | 1.7  | 29                        | 1.6            | 1.6  | 1.6  |     |
| 5                         | 1.0  | 1.3                       | 1.8  | 30                        | 1.4            | 1.4  | 1.4  |     |
| 6                         | 1.0  | 1.3                       | 1.7  | 31                        | 1.5            | 1.5  | 1.5  |     |
| 7                         | 0.9  | 1.2                       | 1.7  | 32                        | 1.4            | 1.4  | 1.4  |     |
| 8                         | 1.1  | 1.4                       | 1.9  | 33                        | 1.5            | 1.5  | 1.5  |     |
| 9                         | 1.0  | 1.3                       | 1.8  | 34                        | 1.3            | 1.3  | 1.3  |     |
| 10                        | 1.0  | 1.3                       | 1.8  | 35                        | 1.4            | 1.4  | 1.4  |     |
| -----                     |      |                           |      |                           |                |      |      |     |
| 11                        | 1.2  | 1.4                       | 1.8  | 36                        | 1.3            | 1.3  | 1.3  |     |
| 12                        | 1.7  | 1.7                       | 2.0  | 37                        | 1.5            | 1.5  | 1.5  |     |
| 13                        | 1.8  | 1.8                       | 1.9  | 38                        | 1.6            | 1.6  | 1.6  |     |
| 14                        | 1.4  | 1.4                       | 1.4  | 39                        | 1.6            | 1.6  | 1.6  |     |
| 15                        | 1.3  | 1.3                       | 1.3  | 40                        | 1.7            | 1.7  | 1.7  |     |
| 16                        | 1.2  | 1.2                       | 1.2  | 41                        | 1.7            | 1.7  | 1.7  |     |
| 17                        | 1.2  | 1.2                       | 1.2  | 42                        | 1.7            | 1.7  | 1.7  |     |
| 18                        | 1.1  | 1.1                       | 1.1  | 43                        | 1.7            | 1.7  | 1.7  |     |
| 19                        | 1.2  | 1.2                       | 1.2  | 44                        | 1.7            | 1.7  | 1.7  |     |
| 20                        | 1.2  | 1.2                       | 1.2  | 45                        | 1.6            | 1.6  | 1.6  |     |
| 21                        | 1.0  | 1.0                       | 1.0  | 46                        | 1.8            | 1.8  | 1.8  |     |
| 22                        | 1.4  | 1.4                       | 1.4  | 47                        | 1.7            | 1.7  | 1.7  |     |
| 23                        | 1.0  | 1.0                       | 1.0  | 48                        | 1.7            | 1.7  | 1.7  |     |
| 24                        | 1.2  | 1.2                       | 1.2  | 49                        | 1.7            | 1.7  | 1.7  |     |
| 25                        | 1.2  | 1.2                       | 1.2  | 50                        | 1.6            | 1.6  | 1.6  |     |
|                           |      |                           |      |                           | TAU-DEE ONLY   | 1.1  | 1.4  | 1.8 |
|                           |      |                           |      |                           | TAU-DELTA ONLY | 1.4  | 1.4  | 1.5 |
|                           |      |                           |      |                           | TOTAL          | 1.4  | 1.4  | 1.5 |

TABLE 2 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
(CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
(ALL RATES IN RESPONSES-PER-SECOND)

| GROUP A          | RAT(S)                    |                |              | POINT 3 |                |                |              |     |
|------------------|---------------------------|----------------|--------------|---------|----------------|----------------|--------------|-----|
| CYCLE LENGTH=100 | 1                         | 6              | 14           | 20      | 21             | SCHEDULE 1     |              |     |
|                  | CLASS INTERVAL WIDTH= 2.0 |                |              |         |                |                |              |     |
| INT              | OVERALL RATE              | CORRECTED RATE | RUNNING RATE | INT     | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 1.6                       | 2.0            | 2.2          | 26      | 2.0            | 2.1            | 2.2          |     |
| 2                | 1.2                       | 1.8            | 2.2          | 27      | 2.1            | 2.2            | 2.3          |     |
| 3                | 1.2                       | 1.6            | 2.4          | 28      | 2.1            | 2.2            | 2.3          |     |
| 4                | 1.4                       | 1.8            | 2.7          | 29      | 2.0            | 2.1            | 2.2          |     |
| 5                | 1.4                       | 1.9            | 2.6          | 30      | 2.1            | 2.2            | 2.4          |     |
| 6                | 1.2                       | 1.7            | 2.5          | 31      | 2.0            | 2.1            | 2.2          |     |
| 7                | 1.3                       | 1.7            | 2.6          | 32      | 2.2            | 2.3            | 2.4          |     |
| 8                | 1.2                       | 1.7            | 2.4          | 33      | 2.1            | 2.3            | 2.4          |     |
| 9                | 1.4                       | 1.8            | 2.5          | 34      | 2.2            | 2.3            | 2.5          |     |
| 10               | 1.3                       | 1.8            | 2.5          | 35      | 2.2            | 2.4            | 2.5          |     |
| -----            |                           |                |              |         |                |                |              |     |
| 11               | 1.6                       | 1.9            | 2.6          | 36      | 2.1            | 2.2            | 2.3          |     |
| 12               | 1.9                       | 2.0            | 2.5          | 37      | 2.0            | 2.1            | 2.3          |     |
| 13               | 2.2                       | 2.3            | 2.6          | 38      | 2.2            | 2.3            | 2.4          |     |
| 14               | 2.2                       | 2.3            | 2.5          | 39      | 2.2            | 2.2            | 2.3          |     |
| 15               | 2.1                       | 2.1            | 2.3          | 40      | 2.3            | 2.4            | 2.4          |     |
| 16               | 2.2                       | 2.3            | 2.4          | 41      | 2.1            | 2.2            | 2.3          |     |
| 17               | 2.0                       | 2.1            | 2.3          | 42      | 2.1            | 2.1            | 2.2          |     |
| 18               | 2.1                       | 2.2            | 2.4          | 43      | 2.3            | 2.4            | 2.5          |     |
| 19               | 1.9                       | 2.0            | 2.1          | 44      | 2.2            | 2.3            | 2.4          |     |
| 20               | 2.0                       | 2.1            | 2.2          | 45      | 2.3            | 2.3            | 2.4          |     |
| 21               | 2.0                       | 2.1            | 2.2          | 46      | 2.3            | 2.3            | 2.4          |     |
| 22               | 2.0                       | 2.1            | 2.3          | 47      | 2.3            | 2.4            | 2.4          |     |
| 23               | 2.0                       | 2.1            | 2.2          | 48      | 2.2            | 2.4            | 2.4          |     |
| 24               | 2.2                       | 2.3            | 2.4          | 49      | 2.3            | 2.4            | 2.5          |     |
| 25               | 2.0                       | 2.1            | 2.2          | 50      | 2.3            | 2.4            | 2.6          |     |
|                  |                           |                |              |         | TAU-DEE ONLY   | 1.3            | 1.8          | 2.5 |
|                  |                           |                |              |         | TAU-DELTA ONLY | 2.1            | 2.2          | 2.4 |
|                  |                           |                |              |         | TOTAL          | 2.0            | 2.1          | 2.4 |

TABLE 2 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
(CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
(ALL RATES IN RESPONSES-PER-SECOND)

| GROUP A          | RAT(S) 1 6 14 20 21       |      |      | POINT 3                   |                |      |      |     |
|------------------|---------------------------|------|------|---------------------------|----------------|------|------|-----|
| CYCLE LENGTH=100 | CLASS INTERVAL WIDTH= 2.0 |      |      | SCHEDULE 2                |                |      |      |     |
|                  | OVERALL CORRECTED RUNNING |      |      | OVERALL CORRECTED RUNNING |                |      |      |     |
| INT              | RATE                      | RATE | RATE | INT                       | RATE           | RATE | RATE |     |
| 1                | 1.8                       | 2.3  | 2.9  | 26                        | 1.6            | 2.3  | 3.5  |     |
| 2                | 1.9                       | 2.8  | 3.7  | 27                        | 1.8            | 2.7  | 3.9  |     |
| 3                | 1.5                       | 2.3  | 3.6  | 28                        | 1.7            | 2.6  | 3.7  |     |
| 4                | 1.7                       | 2.4  | 3.6  | 29                        | 1.8            | 2.8  | 3.8  |     |
| 5                | 1.8                       | 2.7  | 3.8  | 30                        | 1.7            | 2.6  | 3.8  |     |
| 6                | 1.7                       | 2.4  | 3.5  | 31                        | 1.7            | 2.6  | 3.9  |     |
| 7                | 1.7                       | 2.6  | 3.7  | 32                        | 1.6            | 2.4  | 3.6  |     |
| 8                | 1.7                       | 2.5  | 3.6  | 33                        | 1.7            | 2.7  | 3.8  |     |
| 9                | 1.6                       | 2.5  | 3.5  | 34                        | 1.8            | 2.7  | 3.8  |     |
| 10               | 1.6                       | 2.4  | 3.6  | 35                        | 1.8            | 2.8  | 4.0  |     |
| -----            |                           |      |      |                           |                |      |      |     |
| 11               | 1.6                       | 2.6  | 4.0  | 36                        | 1.7            | 2.5  | 3.8  |     |
| 12               | 1.6                       | 2.3  | 3.7  | 37                        | 1.8            | 2.6  | 3.9  |     |
| 13               | 1.6                       | 2.5  | 3.7  | 38                        | 1.9            | 2.9  | 4.0  |     |
| 14               | 1.6                       | 2.5  | 3.9  | 39                        | 1.9            | 2.7  | 3.8  |     |
| 15               | 1.6                       | 2.4  | 3.5  | 40                        | 1.8            | 2.7  | 3.9  |     |
| 16               | 1.6                       | 2.5  | 3.7  | 41                        | 1.6            | 2.6  | 3.9  |     |
| 17               | 1.8                       | 2.6  | 4.0  | 42                        | 1.8            | 2.6  | 3.9  |     |
| 18               | 1.7                       | 2.5  | 3.6  | 43                        | 1.8            | 2.7  | 3.9  |     |
| 19               | 1.8                       | 2.8  | 3.9  | 44                        | 2.0            | 2.8  | 4.0  |     |
| 20               | 1.6                       | 2.4  | 3.7  | 45                        | 1.8            | 2.7  | 3.7  |     |
| 21               | 1.7                       | 2.6  | 3.8  | 46                        | 1.8            | 2.7  | 3.8  |     |
| 22               | 1.8                       | 2.7  | 3.8  | 47                        | 1.7            | 2.4  | 3.6  |     |
| 23               | 1.8                       | 2.6  | 3.9  | 48                        | 1.8            | 2.7  | 3.8  |     |
| 24               | 1.5                       | 2.5  | 3.8  | 49                        | 1.5            | 2.5  | 3.8  |     |
| 25               | 1.4                       | 2.4  | 3.7  | 50                        | 1.9            | 2.7  | 4.0  |     |
|                  |                           |      |      |                           | TAU-DEE ONLY   | 1.7  | 2.5  | 3.5 |
|                  |                           |      |      |                           | TAU-DELTA ONLY | 1.7  | 2.6  | 3.8 |
|                  |                           |      |      |                           | TOTAL          | 1.7  | 2.6  | 3.7 |

TABLE 2 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP A          | RAT(S)       | 1                         | 6            | 14  | 20           | 21             | POINT 4      |
|------------------|--------------|---------------------------|--------------|-----|--------------|----------------|--------------|
| CYCLE LENGTH=100 |              | CLASS INTERVAL WIDTH= 2.0 |              |     |              |                | SCHEDULE 0   |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE | CORRECTED RATE | RUNNING RATE |
| 1                | 1.6          | 2.0                       | 2.1          | 26  | 0.9          | 0.9            | 0.9          |
| 2                | 1.0          | 1.3                       | 1.7          | 27  | 1.0          | 1.0            | 1.0          |
| 3                | 1.1          | 1.4                       | 2.1          | 28  | 1.3          | 1.3            | 1.3          |
| 4                | 1.2          | 1.6                       | 2.3          | 29  | 1.3          | 1.3            | 1.3          |
| 5                | 1.1          | 1.3                       | 2.1          | 30  | 1.5          | 1.5            | 1.5          |
| 6                | 1.0          | 1.2                       | 2.0          | 31  | 1.5          | 1.5            | 1.5          |
| 7                | 1.0          | 1.3                       | 1.9          | 32  | 1.6          | 1.6            | 1.6          |
| 8                | 1.0          | 1.3                       | 1.9          | 33  | 1.6          | 1.6            | 1.6          |
| 9                | 1.0          | 1.3                       | 1.9          | 34  | 1.8          | 1.8            | 1.8          |
| 10               | 1.0          | 1.2                       | 1.8          | 35  | 1.8          | 1.8            | 1.8          |
| -----            |              |                           |              |     |              |                |              |
| 11               | 1.2          | 1.3                       | 1.8          | 36  | 1.7          | 1.7            | 1.7          |
| 12               | 1.8          | 1.8                       | 2.2          | 37  | 1.8          | 1.8            | 1.8          |
| 13               | 1.6          | 1.6                       | 1.8          | 38  | 1.9          | 1.9            | 1.9          |
| 14               | 1.5          | 1.5                       | 1.6          | 39  | 2.1          | 2.1            | 2.1          |
| 15               | 1.3          | 1.3                       | 1.4          | 40  | 2.1          | 2.1            | 2.1          |
| 16               | 1.2          | 1.2                       | 1.3          | 41  | 2.1          | 2.1            | 2.1          |
| 17               | 0.9          | 0.9                       | 0.9          | 42  | 2.4          | 2.4            | 2.4          |
| 18               | 0.9          | 0.9                       | 0.9          | 43  | 2.3          | 2.3            | 2.3          |
| 19               | 1.0          | 1.0                       | 1.0          | 44  | 2.3          | 2.3            | 2.3          |
| 20               | 0.8          | 0.8                       | 0.8          | 45  | 2.3          | 2.3            | 2.3          |
| 21               | 0.9          | 0.9                       | 0.9          | 46  | 2.4          | 2.4            | 2.4          |
| 22               | 1.0          | 1.0                       | 1.0          | 47  | 2.3          | 2.3            | 2.3          |
| 23               | 0.9          | 0.9                       | 0.9          | 48  | 2.3          | 2.3            | 2.3          |
| 24               | 0.9          | 0.9                       | 0.9          | 49  | 2.3          | 2.3            | 2.3          |
| 25               | 0.9          | 0.9                       | 0.9          | 50  | 2.3          | 2.3            | 2.3          |
| TAU-DEE ONLY     |              |                           |              |     | 1.1          | 1.4            | 2.0          |
| TAU-DELTA ONLY   |              |                           |              |     | 1.6          | 1.6            | 1.6          |
| TOTAL            |              |                           |              |     | 1.5          | 1.6            | 1.7          |

TABLE 2 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP A          | RAT(S)       | 1                         | 6            | 14  | 20             | 21             | POINT 4      |     |
|------------------|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|-----|
| CYCLE LENGTH=100 |              | CLASS INTERVAL WIDTH= 2.0 |              |     |                |                | SCHEDULE 1   |     |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 1.7          | 2.2                       | 2.5          | 26  | 2.3            | 2.4            | 2.5          |     |
| 2                | 1.4          | 2.0                       | 2.7          | 27  | 2.2            | 2.3            | 2.4          |     |
| 3                | 1.3          | 1.7                       | 2.8          | 28  | 2.1            | 2.2            | 2.3          |     |
| 4                | 1.1          | 1.5                       | 2.7          | 29  | 2.3            | 2.4            | 2.5          |     |
| 5                | 1.1          | 1.4                       | 2.7          | 30  | 2.5            | 2.5            | 2.7          |     |
| 6                | 1.3          | 1.7                       | 3.0          | 31  | 2.2            | 2.4            | 2.6          |     |
| 7                | 1.1          | 1.6                       | 2.5          | 32  | 2.2            | 2.3            | 2.6          |     |
| 8                | 1.1          | 1.5                       | 2.7          | 33  | 2.2            | 2.3            | 2.5          |     |
| 9                | 1.4          | 1.9                       | 3.0          | 34  | 2.4            | 2.5            | 2.7          |     |
| 10               | 1.4          | 1.8                       | 2.8          | 35  | 2.3            | 2.4            | 2.6          |     |
| -----            |              |                           |              |     |                |                |              |     |
| 11               | 1.6          | 1.8                       | 2.6          | 36  | 2.2            | 2.3            | 2.5          |     |
| 12               | 2.2          | 2.2                       | 2.8          | 37  | 2.6            | 2.8            | 2.8          |     |
| 13               | 2.3          | 2.5                       | 2.9          | 38  | 2.6            | 2.7            | 2.8          |     |
| 14               | 2.4          | 2.5                       | 2.7          | 39  | 2.5            | 2.7            | 2.8          |     |
| 15               | 2.2          | 2.4                       | 2.5          | 40  | 2.4            | 2.6            | 2.8          |     |
| 16               | 2.2          | 2.3                       | 2.5          | 41  | 2.4            | 2.6            | 2.7          |     |
| 17               | 2.2          | 2.3                       | 2.5          | 42  | 2.5            | 2.6            | 2.8          |     |
| 18               | 2.1          | 2.2                       | 2.4          | 43  | 2.5            | 2.6            | 2.7          |     |
| 19               | 2.1          | 2.2                       | 2.3          | 44  | 2.7            | 2.8            | 2.9          |     |
| 20               | 2.0          | 2.0                       | 2.2          | 45  | 2.6            | 2.8            | 2.9          |     |
| 21               | 1.9          | 2.0                       | 2.1          | 46  | 2.3            | 2.4            | 2.5          |     |
| 22               | 1.9          | 2.0                       | 2.2          | 47  | 2.6            | 2.7            | 2.9          |     |
| 23               | 2.1          | 2.2                       | 2.3          | 48  | 2.6            | 2.8            | 2.9          |     |
| 24               | 2.2          | 2.3                       | 2.4          | 49  | 2.3            | 2.5            | 2.6          |     |
| 25               | 2.1          | 2.2                       | 2.3          | 50  | 2.5            | 2.6            | 2.8          |     |
|                  |              |                           |              |     | TAU-DEE ONLY   | 1.3            | 1.7          | 2.7 |
|                  |              |                           |              |     | TAU-DELTA ONLY | 2.3            | 2.4          | 2.6 |
|                  |              |                           |              |     | TOTAL          | 2.1            | 2.3          | 2.6 |

TABLE 2 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP A          | RAT(S)       | 1                         | 6            | 14  | 20             | 21             | POINT 4      |     |
|------------------|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|-----|
| CYCLE LENGTH=100 |              | CLASS INTERVAL WIDTH= 2.0 |              |     |                |                | SCHEDULE 2   |     |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 1.8          | 2.4                       | 3.0          | 26  | 1.8            | 2.5            | 3.6          |     |
| 2                | 1.7          | 2.6                       | 3.5          | 27  | 1.9            | 2.7            | 3.7          |     |
| 3                | 1.5          | 2.3                       | 3.6          | 28  | 1.8            | 2.8            | 3.9          |     |
| 4                | 1.4          | 2.2                       | 3.5          | 29  | 1.5            | 2.2            | 3.5          |     |
| 5                | 1.6          | 2.3                       | 3.7          | 30  | 1.5            | 2.3            | 3.3          |     |
| 6                | 1.9          | 2.5                       | 3.7          | 31  | 1.6            | 2.5            | 3.7          |     |
| 7                | 1.7          | 2.6                       | 3.6          | 32  | 1.5            | 2.3            | 3.8          |     |
| 8                | 1.5          | 2.3                       | 3.6          | 33  | 1.6            | 2.3            | 3.7          |     |
| 9                | 1.5          | 2.4                       | 3.9          | 34  | 1.6            | 2.6            | 3.9          |     |
| 10               | 1.7          | 2.3                       | 3.6          | 35  | 1.5            | 2.3            | 3.9          |     |
| -----            |              |                           |              |     |                |                |              |     |
| 11               | 1.7          | 2.7                       | 3.8          | 36  | 1.6            | 2.4            | 3.7          |     |
| 12               | 1.5          | 2.3                       | 3.6          | 37  | 1.7            | 2.6            | 4.2          |     |
| 13               | 1.7          | 2.6                       | 4.0          | 38  | 1.6            | 2.4            | 3.7          |     |
| 14               | 1.6          | 2.3                       | 3.7          | 39  | 1.7            | 2.6            | 3.7          |     |
| 15               | 1.7          | 2.4                       | 3.5          | 40  | 1.6            | 2.5            | 3.7          |     |
| 16               | 2.0          | 2.6                       | 3.6          | 41  | 1.8            | 2.7            | 4.1          |     |
| 17               | 1.8          | 2.7                       | 3.5          | 42  | 1.6            | 2.4            | 4.1          |     |
| 18               | 1.5          | 2.4                       | 3.5          | 43  | 1.7            | 2.6            | 3.9          |     |
| 19               | 1.4          | 2.3                       | 3.6          | 44  | 1.6            | 2.5            | 3.7          |     |
| 20               | 1.6          | 2.4                       | 3.7          | 45  | 1.6            | 2.2            | 3.2          |     |
| 21               | 1.7          | 2.6                       | 3.8          | 46  | 1.7            | 2.6            | 3.7          |     |
| 22               | 1.8          | 2.6                       | 3.9          | 47  | 1.7            | 2.6            | 3.7          |     |
| 23               | 1.9          | 2.7                       | 3.9          | 48  | 1.5            | 2.3            | 3.8          |     |
| 24               | 1.7          | 2.6                       | 3.9          | 49  | 1.7            | 2.5            | 3.8          |     |
| 25               | 1.7          | 2.6                       | 4.1          | 50  | 1.8            | 2.6            | 3.7          |     |
|                  |              |                           |              |     | TAU-DEE ONLY   | 1.6            | 2.4          | 3.6 |
|                  |              |                           |              |     | TAU-DELTA ONLY | 1.7            | 2.5          | 3.7 |
|                  |              |                           |              |     | TOTAL          | 1.7            | 2.5          | 3.7 |

TABLE 2 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP A          | RAT(S)       | 1                         | 6            | 14  | 20             | 21             | POINT 5      |     |
|------------------|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|-----|
| CYCLE LENGTH=100 |              | CLASS INTERVAL WIDTH= 2.0 |              |     |                |                | SCHEDULE 0   |     |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 1.7          | 2.2                       | 2.2          | 26  | 1.0            | 1.0            | 1.0          |     |
| 2                | 1.0          | 1.3                       | 1.8          | 27  | 1.1            | 1.1            | 1.1          |     |
| 3                | 1.3          | 1.6                       | 2.3          | 28  | 1.1            | 1.1            | 1.1          |     |
| 4                | 1.1          | 1.5                       | 2.1          | 29  | 1.0            | 1.0            | 1.0          |     |
| 5                | 1.2          | 1.5                       | 2.3          | 30  | 1.1            | 1.1            | 1.1          |     |
| 6                | 1.2          | 1.6                       | 2.3          | 31  | 1.3            | 1.3            | 1.3          |     |
| 7                | 1.2          | 1.6                       | 2.3          | 32  | 1.4            | 1.4            | 1.4          |     |
| 8                | 1.2          | 1.6                       | 2.2          | 33  | 1.3            | 1.3            | 1.3          |     |
| 9                | 1.5          | 1.9                       | 2.5          | 34  | 1.4            | 1.4            | 1.4          |     |
| 10               | 1.0          | 1.4                       | 2.1          | 35  | 1.7            | 1.7            | 1.7          |     |
| -----            |              |                           |              |     |                |                |              |     |
| 11               | 1.5          | 1.6                       | 2.2          | 36  | 1.7            | 1.7            | 1.7          |     |
| 12               | 1.9          | 1.9                       | 2.2          | 37  | 1.8            | 1.8            | 1.8          |     |
| 13               | 2.0          | 2.0                       | 2.2          | 38  | 1.9            | 1.9            | 1.9          |     |
| 14               | 1.7          | 1.7                       | 1.7          | 39  | 1.9            | 1.9            | 1.9          |     |
| 15               | 1.2          | 1.2                       | 1.2          | 40  | 1.9            | 1.9            | 1.9          |     |
| 16               | 0.9          | 0.9                       | 0.9          | 41  | 2.1            | 2.1            | 2.1          |     |
| 17               | 0.8          | 0.8                       | 0.8          | 42  | 2.0            | 2.0            | 2.0          |     |
| 18               | 0.7          | 0.7                       | 0.8          | 43  | 1.9            | 1.9            | 1.9          |     |
| 19               | 0.9          | 0.9                       | 0.9          | 44  | 2.0            | 2.0            | 2.0          |     |
| 20               | 0.8          | 0.8                       | 0.8          | 45  | 2.0            | 2.0            | 2.0          |     |
| 21               | 0.7          | 0.7                       | 0.7          | 46  | 2.1            | 2.1            | 2.1          |     |
| 22               | 0.7          | 0.7                       | 0.7          | 47  | 2.2            | 2.2            | 2.2          |     |
| 23               | 0.8          | 0.8                       | 0.8          | 48  | 2.3            | 2.3            | 2.3          |     |
| 24               | 0.8          | 0.8                       | 0.8          | 49  | 2.1            | 2.1            | 2.1          |     |
| 25               | 0.8          | 0.8                       | 0.8          | 50  | 2.3            | 2.3            | 2.3          |     |
|                  |              |                           |              |     | TAU-DEE ONLY   | 1.2            | 1.6          | 2.2 |
|                  |              |                           |              |     | TAU-DELTA ONLY | 1.5            | 1.5          | 1.5 |
|                  |              |                           |              |     | TOTAL          | 1.4            | 1.5          | 1.6 |

TABLE 2 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP A          | RAT(S)       | 1                         | 6            | 14  | 20             | 21             | POINT 5      |     |
|------------------|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|-----|
| CYCLE LENGTH=100 |              | CLASS INTERVAL WIDTH= 2.0 |              |     |                |                | SCHEDULE 1   |     |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 2.1          | 2.6                       | 2.8          | 26  | 2.4            | 2.5            | 2.6          |     |
| 2                | 1.3          | 1.9                       | 2.5          | 27  | 2.3            | 2.4            | 2.5          |     |
| 3                | 1.3          | 1.7                       | 2.5          | 28  | 2.6            | 2.6            | 2.7          |     |
| 4                | 1.5          | 2.1                       | 2.8          | 29  | 2.4            | 2.5            | 2.6          |     |
| 5                | 1.7          | 2.3                       | 3.0          | 30  | 2.5            | 2.7            | 2.8          |     |
| 6                | 1.3          | 1.9                       | 2.7          | 31  | 2.4            | 2.5            | 2.6          |     |
| 7                | 1.4          | 1.9                       | 2.8          | 32  | 2.2            | 2.4            | 2.5          |     |
| 8                | 1.4          | 2.1                       | 3.0          | 33  | 2.7            | 2.8            | 3.0          |     |
| 9                | 1.3          | 1.8                       | 2.9          | 34  | 2.5            | 2.7            | 2.9          |     |
| 10               | 1.4          | 2.0                       | 3.0          | 35  | 2.5            | 2.7            | 2.9          |     |
| -----            |              |                           |              |     |                |                |              |     |
| 11               | 1.9          | 2.3                       | 3.1          | 36  | 2.5            | 2.7            | 3.0          |     |
| 12               | 2.4          | 2.5                       | 2.9          | 37  | 2.5            | 2.7            | 2.9          |     |
| 13               | 2.6          | 2.7                       | 3.0          | 38  | 2.6            | 2.7            | 2.9          |     |
| 14               | 2.4          | 2.5                       | 2.8          | 39  | 2.5            | 2.7            | 3.0          |     |
| 15               | 2.4          | 2.5                       | 2.8          | 40  | 2.6            | 2.8            | 3.1          |     |
| 16               | 2.2          | 2.3                       | 2.5          | 41  | 2.6            | 2.8            | 3.0          |     |
| 17               | 2.3          | 2.4                       | 2.5          | 42  | 2.7            | 2.8            | 3.1          |     |
| 18               | 2.1          | 2.3                       | 2.3          | 43  | 2.7            | 2.9            | 3.1          |     |
| 19               | 2.0          | 2.2                       | 2.3          | 44  | 2.7            | 2.9            | 3.1          |     |
| 20               | 2.3          | 2.4                       | 2.5          | 45  | 2.6            | 2.7            | 2.9          |     |
| 21               | 2.3          | 2.4                       | 2.5          | 46  | 2.7            | 2.9            | 3.1          |     |
| 22               | 2.2          | 2.2                       | 2.4          | 47  | 2.6            | 2.7            | 3.0          |     |
| 23               | 2.4          | 2.5                       | 2.7          | 48  | 2.5            | 2.6            | 2.9          |     |
| 24               | 2.1          | 2.2                       | 2.4          | 49  | 2.7            | 2.8            | 3.0          |     |
| 25               | 2.2          | 2.3                       | 2.5          | 50  | 2.9            | 3.0            | 3.1          |     |
|                  |              |                           |              |     | TAU-DEE ONLY   | 1.5            | 2.0          | 2.8 |
|                  |              |                           |              |     | TAU-DELTA ONLY | 2.4            | 2.6          | 2.8 |
|                  |              |                           |              |     | TOTAL          | 2.2            | 2.5          | 2.8 |

TABLE 2 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

GROUP A      RAT(S)    1   6 14 20 21                      POINT 5  
 CYCLE LENGTH=100      CLASS INTERVAL WIDTH= 2.0      SCHEDULE 2

| OVERALL CORRECTED RUNNING |      |      |      | OVERALL CORRECTED RUNNING |                |      |      |     |
|---------------------------|------|------|------|---------------------------|----------------|------|------|-----|
| INT                       | RATE | RATE | RATE | INT                       | RATE           | RATE | RATE |     |
| 1                         | 1.8  | 2.7  | 3.3  | 26                        | 1.7            | 2.9  | 4.1  |     |
| 2                         | 1.8  | 2.8  | 3.6  | 27                        | 1.8            | 2.7  | 3.8  |     |
| 3                         | 1.7  | 2.7  | 3.8  | 28                        | 1.6            | 2.8  | 4.0  |     |
| 4                         | 1.6  | 2.4  | 3.5  | 29                        | 1.6            | 2.6  | 4.0  |     |
| 5                         | 1.7  | 2.7  | 3.8  | 30                        | 1.9            | 2.8  | 3.9  |     |
| 6                         | 1.7  | 2.6  | 3.8  | 31                        | 1.8            | 2.7  | 3.6  |     |
| 7                         | 1.6  | 2.4  | 3.8  | 32                        | 1.9            | 3.0  | 3.9  |     |
| 8                         | 1.8  | 2.7  | 3.9  | 33                        | 1.9            | 2.9  | 3.8  |     |
| 9                         | 1.8  | 2.9  | 4.0  | 34                        | 2.1            | 3.0  | 4.2  |     |
| 10                        | 1.8  | 2.7  | 4.0  | 35                        | 1.8            | 2.7  | 4.0  |     |
| -----                     |      |      |      |                           |                |      |      |     |
| 11                        | 1.6  | 2.4  | 3.7  | 36                        | 1.7            | 2.7  | 3.9  |     |
| 12                        | 1.9  | 2.8  | 4.0  | 37                        | 1.9            | 2.9  | 4.0  |     |
| 13                        | 1.9  | 2.8  | 4.0  | 38                        | 1.7            | 2.6  | 3.6  |     |
| 14                        | 1.8  | 2.8  | 4.0  | 39                        | 2.0            | 3.0  | 4.0  |     |
| 15                        | 1.9  | 2.7  | 3.9  | 40                        | 1.9            | 2.9  | 3.8  |     |
| 16                        | 1.8  | 2.7  | 3.9  | 41                        | 1.9            | 2.9  | 3.9  |     |
| 17                        | 1.6  | 2.6  | 4.0  | 42                        | 2.0            | 2.8  | 4.0  |     |
| 18                        | 1.7  | 2.5  | 4.1  | 43                        | 1.7            | 2.6  | 3.8  |     |
| 19                        | 1.6  | 2.6  | 3.8  | 44                        | 1.8            | 2.8  | 4.0  |     |
| 20                        | 1.9  | 2.9  | 4.1  | 45                        | 2.0            | 3.1  | 4.1  |     |
| 21                        | 1.9  | 2.9  | 3.9  | 46                        | 1.7            | 2.7  | 4.0  |     |
| 22                        | 1.7  | 2.7  | 3.9  | 47                        | 2.0            | 2.9  | 4.1  |     |
| 23                        | 1.7  | 2.6  | 3.9  | 48                        | 2.0            | 3.2  | 4.4  |     |
| 24                        | 1.7  | 2.7  | 3.9  | 49                        | 1.6            | 2.4  | 4.1  |     |
| 25                        | 2.1  | 3.0  | 4.0  | 50                        | 1.8            | 2.6  | 3.8  |     |
|                           |      |      |      |                           | TAU-DEE ONLY   | 1.7  | 2.7  | 3.8 |
|                           |      |      |      |                           | TAU-DELTA ONLY | 1.8  | 2.8  | 3.9 |
|                           |      |      |      |                           | TOTAL          | 1.8  | 2.8  | 3.9 |

TABLE 3

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP B          | RAT(S)       | 3                         | 7            | 17  | 22             | 23             | POINT 1      |     |
|------------------|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|-----|
| CYCLE LENGTH=500 |              | CLASS INTERVAL WIDTH=10.0 |              |     |                |                | SCHEDULE 0   |     |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 1.5          | 2.0                       | 2.4          | 26  | 0.3            | 0.3            | 0.3          |     |
| 2                | 1.7          | 2.3                       | 3.0          | 27  | 0.4            | 0.4            | 0.4          |     |
| 3                | 1.7          | 2.5                       | 3.2          | 28  | 0.3            | 0.3            | 0.3          |     |
| 4                | 1.6          | 2.4                       | 3.1          | 29  | 0.5            | 0.5            | 0.5          |     |
| 5                | 1.7          | 2.5                       | 3.3          | 30  | 0.6            | 0.6            | 0.6          |     |
| 6                | 1.7          | 2.5                       | 3.2          | 31  | 0.5            | 0.5            | 0.5          |     |
| 7                | 1.8          | 2.7                       | 3.4          | 32  | 0.5            | 0.5            | 0.5          |     |
| 8                | 1.6          | 2.5                       | 3.4          | 33  | 0.5            | 0.5            | 0.5          |     |
| 9                | 1.5          | 2.3                       | 3.2          | 34  | 0.5            | 0.5            | 0.5          |     |
| 10               | 1.6          | 2.5                       | 3.3          | 35  | 0.4            | 0.4            | 0.4          |     |
| -----            |              |                           |              |     |                |                |              |     |
| 11               | 2.7          | 2.8                       | 2.9          | 36  | 0.4            | 0.4            | 0.4          |     |
| 12               | 2.3          | 2.3                       | 2.3          | 37  | 0.2            | 0.2            | 0.2          |     |
| 13               | 1.0          | 1.0                       | 1.0          | 38  | 0.2            | 0.2            | 0.2          |     |
| 14               | 0.5          | 0.5                       | 0.5          | 39  | 0.2            | 0.2            | 0.2          |     |
| 15               | 0.4          | 0.4                       | 0.4          | 40  | 0.2            | 0.2            | 0.2          |     |
| 16               | 0.5          | 0.5                       | 0.5          | 41  | 0.4            | 0.4            | 0.4          |     |
| 17               | 0.5          | 0.5                       | 0.5          | 42  | 0.6            | 0.6            | 0.6          |     |
| 18               | 0.5          | 0.5                       | 0.5          | 43  | 0.5            | 0.5            | 0.5          |     |
| 19               | 0.3          | 0.3                       | 0.3          | 44  | 0.4            | 0.4            | 0.4          |     |
| 20               | 0.2          | 0.2                       | 0.2          | 45  | 0.4            | 0.4            | 0.4          |     |
| 21               | 0.3          | 0.3                       | 0.3          | 46  | 0.3            | 0.3            | 0.3          |     |
| 22               | 0.3          | 0.3                       | 0.3          | 47  | 0.4            | 0.4            | 0.4          |     |
| 23               | 0.3          | 0.3                       | 0.3          | 48  | 0.3            | 0.3            | 0.3          |     |
| 24               | 0.2          | 0.2                       | 0.2          | 49  | 0.3            | 0.3            | 0.3          |     |
| 25               | 0.3          | 0.3                       | 0.3          | 50  | 0.2            | 0.2            | 0.2          |     |
|                  |              |                           |              |     | TAU-DEE ONLY   | 1.6            | 2.4          | 3.1 |
|                  |              |                           |              |     | TAU-DELTA ONLY | 0.5            | 0.5          | 0.5 |
|                  |              |                           |              |     | TOTAL          | 0.7            | 0.8          | 0.8 |

TABLE 3 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP B          | RAT(S)       | 3                         | 7            | 17  | 22             | 23             | POINT 1      |     |
|------------------|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|-----|
| CYCLE LENGTH=500 |              | CLASS INTERVAL WIDTH=10.0 |              |     |                |                | SCHEDULE 1   |     |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 1.6          | 2.2                       | 2.6          | 26  | 0.6            | 0.6            | 0.6          |     |
| 2                | 1.8          | 2.9                       | 4.1          | 27  | 0.6            | 0.6            | 0.7          |     |
| 3                | 2.0          | 3.0                       | 3.9          | 28  | 0.5            | 0.5            | 0.6          |     |
| 4                | 1.9          | 3.1                       | 4.3          | 29  | 0.8            | 0.8            | 0.8          |     |
| 5                | 1.7          | 2.9                       | 4.2          | 30  | 0.7            | 0.7            | 0.7          |     |
| 6                | 1.9          | 3.0                       | 3.9          | 31  | 0.6            | 0.6            | 0.6          |     |
| 7                | 1.9          | 2.9                       | 3.7          | 32  | 0.8            | 0.8            | 0.8          |     |
| 8                | 1.7          | 3.0                       | 4.3          | 33  | 0.7            | 0.7            | 0.7          |     |
| 9                | 1.7          | 2.9                       | 4.2          | 34  | 0.6            | 0.7            | 0.7          |     |
| 10               | 1.8          | 3.0                       | 4.1          | 35  | 0.7            | 0.7            | 0.7          |     |
| -----            |              |                           |              |     |                |                |              |     |
| 11               | 3.0          | 3.3                       | 3.5          | 36  | 0.7            | 0.7            | 0.7          |     |
| 12               | 2.6          | 2.7                       | 2.7          | 37  | 0.9            | 0.9            | 1.0          |     |
| 13               | 1.8          | 1.9                       | 1.9          | 38  | 1.0            | 1.0            | 1.1          |     |
| 14               | 1.2          | 1.2                       | 1.3          | 39  | 0.9            | 1.0            | 1.0          |     |
| 15               | 1.1          | 1.1                       | 1.1          | 40  | 1.1            | 1.1            | 1.1          |     |
| 16               | 0.9          | 1.0                       | 1.0          | 41  | 1.2            | 1.3            | 1.3          |     |
| 17               | 1.0          | 1.0                       | 1.0          | 42  | 1.4            | 1.4            | 1.4          |     |
| 18               | 0.8          | 0.9                       | 0.9          | 43  | 1.3            | 1.3            | 1.4          |     |
| 19               | 0.5          | 0.5                       | 0.5          | 44  | 1.3            | 1.3            | 1.3          |     |
| 20               | 0.5          | 0.5                       | 0.5          | 45  | 1.0            | 1.0            | 1.1          |     |
| 21               | 0.5          | 0.5                       | 0.5          | 46  | 1.0            | 1.0            | 1.0          |     |
| 22               | 0.7          | 0.7                       | 0.7          | 47  | 0.9            | 0.9            | 0.9          |     |
| 23               | 0.7          | 0.7                       | 0.7          | 48  | 0.9            | 1.0            | 1.0          |     |
| 24               | 0.5          | 0.5                       | 0.5          | 49  | 1.0            | 1.0            | 1.1          |     |
| 25               | 0.6          | 0.6                       | 0.6          | 50  | 1.2            | 1.2            | 1.2          |     |
|                  |              |                           |              |     | TAU-DEE ONLY   | 1.8            | 2.9          | 3.9 |
|                  |              |                           |              |     | TAU-DELTA ONLY | 1.0            | 1.0          | 1.0 |
|                  |              |                           |              |     | TOTAL          | 1.1            | 1.3          | 1.3 |

TABLE 3 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP B          | RAT(S)       | 3                         | 7            | 17  | 22             | 23             | POINT 1      |     |
|------------------|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|-----|
| CYCLE LENGTH=500 |              | CLASS INTERVAL WIDTH=10.0 |              |     |                |                | SCHEDULE 2   |     |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 1.0          | 1.4                       | 1.6          | 26  | 1.8            | 3.1            | 4.2          |     |
| 2                | 1.8          | 2.5                       | 3.3          | 27  | 1.8            | 3.1            | 4.3          |     |
| 3                | 1.8          | 2.8                       | 3.7          | 28  | 1.9            | 3.0            | 4.0          |     |
| 4                | 1.9          | 3.1                       | 4.1          | 29  | 2.0            | 3.2            | 4.1          |     |
| 5                | 2.0          | 3.2                       | 4.4          | 30  | 1.9            | 2.8            | 3.5          |     |
| 6                | 1.7          | 3.0                       | 4.0          | 31  | 1.8            | 2.8            | 3.6          |     |
| 7                | 1.7          | 3.0                       | 4.6          | 32  | 1.8            | 2.9            | 3.7          |     |
| 8                | 1.9          | 3.0                       | 4.0          | 33  | 2.0            | 2.9            | 3.7          |     |
| 9                | 1.9          | 3.1                       | 4.1          | 34  | 1.7            | 2.8            | 3.9          |     |
| 10               | 1.8          | 2.9                       | 4.1          | 35  | 1.8            | 2.7            | 3.5          |     |
| -----            |              |                           |              |     |                |                |              |     |
| 11               | 2.0          | 3.2                       | 4.2          | 36  | 2.0            | 2.8            | 3.4          |     |
| 12               | 1.9          | 3.2                       | 4.2          | 37  | 1.8            | 2.7            | 3.4          |     |
| 13               | 2.2          | 3.2                       | 4.0          | 38  | 1.7            | 2.5            | 3.3          |     |
| 14               | 1.9          | 3.0                       | 3.8          | 39  | 1.6            | 2.4            | 3.3          |     |
| 15               | 2.1          | 3.2                       | 4.1          | 40  | 1.6            | 2.6            | 3.6          |     |
| 16               | 1.8          | 2.9                       | 4.2          | 41  | 1.8            | 2.8            | 3.6          |     |
| 17               | 1.9          | 3.1                       | 4.0          | 42  | 1.8            | 2.7            | 3.5          |     |
| 18               | 2.2          | 3.3                       | 4.2          | 43  | 1.7            | 2.5            | 3.2          |     |
| 19               | 1.8          | 2.9                       | 4.1          | 44  | 1.8            | 2.7            | 3.2          |     |
| 20               | 1.7          | 2.9                       | 4.0          | 45  | 1.7            | 2.7            | 3.4          |     |
| 21               | 2.2          | 3.2                       | 3.8          | 46  | 1.6            | 2.6            | 3.4          |     |
| 22               | 1.9          | 2.8                       | 3.8          | 47  | 1.8            | 2.8            | 3.6          |     |
| 23               | 2.1          | 3.1                       | 3.9          | 48  | 1.6            | 2.6            | 3.4          |     |
| 24               | 2.0          | 3.1                       | 4.0          | 49  | 1.7            | 2.7            | 3.6          |     |
| 25               | 1.7          | 2.9                       | 4.0          | 50  | 1.7            | 2.8            | 3.7          |     |
|                  |              |                           |              |     | TAU-DEE ONLY   | 1.8            | 2.8          | 3.7 |
|                  |              |                           |              |     | TAU-DELTA ONLY | 1.9            | 2.9          | 3.7 |
|                  |              |                           |              |     | TOTAL          | 1.8            | 2.9          | 3.7 |

TABLE 3 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

GROUP B      RAT(S)    3    7    17    22    23                      POINT 2  
 CYCLE LENGTH=100      CLASS INTERVAL WIDTH= 2.0      SCHEDULE 0

| OVERALL CORRECTED RUNNING |      |      |      | OVERALL CORRECTED RUNNING |                |      |      |     |
|---------------------------|------|------|------|---------------------------|----------------|------|------|-----|
| INT                       | RATE | RATE | RATE | INT                       | RATE           | RATE | RATE |     |
| 1                         | 1.3  | 1.6  | 1.6  | 26                        | 1.6            | 1.6  | 1.6  |     |
| 2                         | 1.1  | 1.4  | 1.7  | 27                        | 1.7            | 1.7  | 1.7  |     |
| 3                         | 1.3  | 1.6  | 2.0  | 28                        | 1.7            | 1.7  | 1.7  |     |
| 4                         | 1.0  | 1.5  | 1.9  | 29                        | 1.6            | 1.6  | 1.6  |     |
| 5                         | 1.1  | 1.4  | 1.9  | 30                        | 1.7            | 1.7  | 1.7  |     |
| 6                         | 1.3  | 1.7  | 2.1  | 31                        | 1.7            | 1.7  | 1.7  |     |
| 7                         | 1.3  | 1.8  | 2.2  | 32                        | 1.7            | 1.7  | 1.7  |     |
| 8                         | 1.3  | 1.7  | 2.1  | 33                        | 1.8            | 1.8  | 1.8  |     |
| 9                         | 1.4  | 1.8  | 2.3  | 34                        | 1.8            | 1.8  | 1.8  |     |
| 10                        | 1.4  | 1.8  | 2.3  | 35                        | 1.8            | 1.8  | 1.8  |     |
| -----                     |      |      |      |                           |                |      |      |     |
| 11                        | 1.8  | 2.1  | 2.5  | 36                        | 2.0            | 2.0  | 2.0  |     |
| 12                        | 2.4  | 2.4  | 2.6  | 37                        | 1.9            | 1.9  | 1.9  |     |
| 13                        | 2.4  | 2.4  | 2.4  | 38                        | 1.9            | 1.9  | 1.9  |     |
| 14                        | 2.1  | 2.1  | 2.1  | 39                        | 1.9            | 1.9  | 1.9  |     |
| 15                        | 2.1  | 2.1  | 2.1  | 40                        | 1.9            | 1.9  | 1.9  |     |
| 16                        | 1.8  | 1.8  | 1.8  | 41                        | 1.9            | 1.9  | 1.9  |     |
| 17                        | 1.4  | 1.4  | 1.4  | 42                        | 2.0            | 2.0  | 2.0  |     |
| 18                        | 1.4  | 1.4  | 1.4  | 43                        | 1.8            | 1.8  | 1.8  |     |
| 19                        | 1.6  | 1.6  | 1.6  | 44                        | 1.8            | 1.8  | 1.8  |     |
| 20                        | 1.5  | 1.5  | 1.5  | 45                        | 1.7            | 1.7  | 1.7  |     |
| 21                        | 1.4  | 1.4  | 1.4  | 46                        | 1.8            | 1.8  | 1.8  |     |
| 22                        | 1.5  | 1.5  | 1.5  | 47                        | 1.8            | 1.8  | 1.8  |     |
| 23                        | 1.6  | 1.6  | 1.6  | 48                        | 1.9            | 1.9  | 1.9  |     |
| 24                        | 1.6  | 1.6  | 1.6  | 49                        | 1.8            | 1.8  | 1.8  |     |
| 25                        | 1.5  | 1.5  | 1.5  | 50                        | 1.7            | 1.7  | 1.7  |     |
|                           |      |      |      |                           | TAU-DEE ONLY   | 1.3  | 1.6  | 2.0 |
|                           |      |      |      |                           | TAU-DELTA ONLY | 1.8  | 1.8  | 1.8 |
|                           |      |      |      |                           | TOTAL          | 1.7  | 1.8  | 1.8 |

TABLE 3 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP B          | RAT(S)       | 3                         | 7            | 17  | 22             | 23             | POINT 2      |     |
|------------------|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|-----|
| CYCLE LENGTH=100 |              | CLASS INTERVAL WIDTH= 2.0 |              |     |                |                | SCHEDULE 1   |     |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 1.5          | 2.0                       | 2.1          | 26  | 1.8            | 1.9            | 2.0          |     |
| 2                | 1.3          | 1.9                       | 2.3          | 27  | 2.0            | 2.0            | 2.1          |     |
| 3                | 1.4          | 2.0                       | 2.5          | 28  | 2.1            | 2.1            | 2.2          |     |
| 4                | 1.4          | 2.0                       | 2.5          | 29  | 2.0            | 2.0            | 2.1          |     |
| 5                | 1.4          | 2.0                       | 2.6          | 30  | 2.0            | 2.1            | 2.1          |     |
| 6                | 1.5          | 2.1                       | 2.7          | 31  | 2.0            | 2.1            | 2.2          |     |
| 7                | 1.9          | 2.5                       | 3.0          | 32  | 2.1            | 2.2            | 2.2          |     |
| 8                | 1.6          | 2.4                       | 2.8          | 33  | 2.1            | 2.2            | 2.3          |     |
| 9                | 1.5          | 2.2                       | 2.8          | 34  | 2.1            | 2.2            | 2.3          |     |
| 10               | 1.6          | 2.3                       | 2.9          | 35  | 2.2            | 2.3            | 2.4          |     |
| -----            |              |                           |              |     |                |                |              |     |
| 11               | 1.8          | 2.3                       | 2.8          | 36  | 2.0            | 2.1            | 2.2          |     |
| 12               | 2.7          | 2.8                       | 3.2          | 37  | 2.0            | 2.1            | 2.2          |     |
| 13               | 2.4          | 2.6                       | 2.7          | 38  | 2.0            | 2.0            | 2.1          |     |
| 14               | 2.4          | 2.6                       | 2.7          | 39  | 2.1            | 2.2            | 2.2          |     |
| 15               | 2.4          | 2.5                       | 2.7          | 40  | 2.2            | 2.3            | 2.3          |     |
| 16               | 2.3          | 2.4                       | 2.5          | 41  | 2.1            | 2.2            | 2.2          |     |
| 17               | 2.2          | 2.4                       | 2.4          | 42  | 2.2            | 2.3            | 2.4          |     |
| 18               | 2.1          | 2.2                       | 2.2          | 43  | 2.2            | 2.2            | 2.3          |     |
| 19               | 2.1          | 2.1                       | 2.2          | 44  | 2.2            | 2.2            | 2.3          |     |
| 20               | 2.0          | 2.1                       | 2.2          | 45  | 2.0            | 2.1            | 2.1          |     |
| 21               | 2.0          | 2.1                       | 2.1          | 46  | 2.1            | 2.1            | 2.2          |     |
| 22               | 2.0          | 2.1                       | 2.1          | 47  | 2.1            | 2.3            | 2.3          |     |
| 23               | 2.1          | 2.1                       | 2.2          | 48  | 2.1            | 2.2            | 2.3          |     |
| 24               | 2.1          | 2.2                       | 2.2          | 49  | 2.1            | 2.2            | 2.3          |     |
| 25               | 1.9          | 1.9                       | 2.0          | 50  | 2.1            | 2.2            | 2.3          |     |
|                  |              |                           |              |     | TAU-DEE ONLY   | 1.5            | 2.1          | 2.6 |
|                  |              |                           |              |     | TAU-DELTA ONLY | 2.1            | 2.2          | 2.3 |
|                  |              |                           |              |     | TOTAL          | 2.0            | 2.2          | 2.3 |

TABLE 3 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP B          | RAT(S)       | 3                         | 7            | 17  | 22             | 23             | POINT 2      |     |
|------------------|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|-----|
| CYCLE LENGTH=100 |              | CLASS INTERVAL WIDTH= 2.0 |              |     |                |                | SCHEDULE 2   |     |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 1.9          | 3.0                       | 3.6          | 26  | 2.0            | 3.4            | 4.5          |     |
| 2                | 1.9          | 3.1                       | 4.2          | 27  | 2.1            | 3.5            | 4.8          |     |
| 3                | 2.0          | 3.2                       | 4.4          | 28  | 2.1            | 3.4            | 4.5          |     |
| 4                | 1.9          | 3.2                       | 4.3          | 29  | 2.1            | 3.6            | 4.7          |     |
| 5                | 1.9          | 3.2                       | 4.6          | 30  | 1.8            | 3.2            | 4.4          |     |
| 6                | 2.1          | 3.3                       | 4.2          | 31  | 2.2            | 3.4            | 4.5          |     |
| 7                | 2.1          | 3.4                       | 4.3          | 32  | 2.1            | 3.4            | 4.3          |     |
| 8                | 2.0          | 3.3                       | 4.4          | 33  | 2.1            | 3.4            | 4.4          |     |
| 9                | 2.0          | 3.3                       | 4.3          | 34  | 2.0            | 3.3            | 4.5          |     |
| 10               | 1.9          | 3.2                       | 4.1          | 35  | 2.1            | 3.5            | 4.5          |     |
| -----            |              |                           |              |     |                |                |              |     |
| 11               | 2.1          | 3.2                       | 4.4          | 36  | 2.1            | 3.2            | 4.3          |     |
| 12               | 2.1          | 3.5                       | 4.5          | 37  | 2.3            | 3.5            | 4.5          |     |
| 13               | 2.0          | 3.3                       | 4.6          | 38  | 1.8            | 3.1            | 4.3          |     |
| 14               | 2.2          | 3.5                       | 4.6          | 39  | 2.1            | 3.4            | 4.5          |     |
| 15               | 2.1          | 3.4                       | 4.4          | 40  | 1.8            | 3.1            | 4.3          |     |
| 16               | 2.0          | 3.2                       | 4.1          | 41  | 2.0            | 3.3            | 4.5          |     |
| 17               | 2.1          | 3.5                       | 4.4          | 42  | 1.9            | 3.1            | 4.4          |     |
| 18               | 1.7          | 2.9                       | 4.0          | 43  | 1.8            | 3.7            | 4.9          |     |
| 19               | 1.9          | 3.2                       | 4.5          | 44  | 2.1            | 3.2            | 4.7          |     |
| 20               | 2.1          | 3.5                       | 4.4          | 45  | 2.3            | 3.5            | 4.4          |     |
| 21               | 2.2          | 3.6                       | 4.6          | 46  | 1.8            | 3.3            | 4.7          |     |
| 22               | 1.9          | 3.2                       | 4.1          | 47  | 2.1            | 3.3            | 4.8          |     |
| 23               | 2.0          | 3.3                       | 4.2          | 48  | 2.2            | 3.5            | 4.4          |     |
| 24               | 2.1          | 3.3                       | 4.4          | 49  | 2.0            | 3.4            | 4.7          |     |
| 25               | 2.0          | 3.5                       | 4.9          | 50  | 2.4            | 3.6            | 4.5          |     |
|                  |              |                           |              |     | TAU-DEE ONLY   | 2.0            | 3.2          | 4.3 |
|                  |              |                           |              |     | TAU-DELTA ONLY | 2.0            | 3.4          | 4.5 |
|                  |              |                           |              |     | TOTAL          | 2.0            | 3.3          | 4.4 |

TABLE 3 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP B          | RAT(S)       | 3                         | 7            | 17  | 22           | 23             | POINT 3      |
|------------------|--------------|---------------------------|--------------|-----|--------------|----------------|--------------|
| CYCLE LENGTH=100 |              | CLASS INTERVAL WIDTH= 2.0 |              |     |              |                | SCHEDULE 0   |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE | CORRECTED RATE | RUNNING RATE |
| 1                | 1.4          | 1.7                       | 1.7          | 26  | 1.2          | 1.2            | 1.2          |
| 2                | 1.3          | 1.7                       | 2.0          | 27  | 1.4          | 1.4            | 1.4          |
| 3                | 1.0          | 1.4                       | 1.8          | 28  | 1.3          | 1.3            | 1.3          |
| 4                | 1.2          | 1.6                       | 2.0          | 29  | 1.2          | 1.2            | 1.2          |
| 5                | 1.1          | 1.6                       | 2.1          | 30  | 1.3          | 1.3            | 1.3          |
| 6                | 1.1          | 1.6                       | 2.2          | 31  | 1.3          | 1.3            | 1.3          |
| 7                | 1.2          | 1.6                       | 2.2          | 32  | 1.4          | 1.4            | 1.4          |
| 8                | 1.2          | 1.7                       | 2.2          | 33  | 1.4          | 1.4            | 1.4          |
| 9                | 1.3          | 1.8                       | 2.4          | 34  | 1.5          | 1.5            | 1.5          |
| 10               | 1.4          | 1.8                       | 2.4          | 35  | 1.7          | 1.7            | 1.7          |
| -----            |              |                           |              |     |              |                |              |
| 11               | 1.7          | 2.0                       | 2.5          | 36  | 1.8          | 1.8            | 1.8          |
| 12               | 2.2          | 2.2                       | 2.6          | 37  | 1.8          | 1.8            | 1.8          |
| 13               | 2.3          | 2.3                       | 2.4          | 38  | 1.8          | 1.8            | 1.8          |
| 14               | 1.9          | 1.9                       | 1.9          | 39  | 1.9          | 1.9            | 1.9          |
| 15               | 1.6          | 1.6                       | 1.6          | 40  | 2.1          | 2.1            | 2.1          |
| 16               | 1.3          | 1.3                       | 1.3          | 41  | 2.0          | 2.0            | 2.0          |
| 17               | 1.2          | 1.2                       | 1.2          | 42  | 1.9          | 1.9            | 1.9          |
| 18               | 1.1          | 1.1                       | 1.1          | 43  | 2.0          | 2.0            | 2.0          |
| 19               | 1.0          | 1.0                       | 1.0          | 44  | 2.0          | 2.0            | 2.0          |
| 20               | 0.9          | 0.9                       | 0.9          | 45  | 2.2          | 2.2            | 2.2          |
| 21               | 1.0          | 1.0                       | 1.0          | 46  | 2.2          | 2.2            | 2.2          |
| 22               | 1.0          | 1.0                       | 1.0          | 47  | 2.1          | 2.1            | 2.1          |
| 23               | 1.0          | 1.0                       | 1.0          | 48  | 2.0          | 2.0            | 2.0          |
| 24               | 1.0          | 1.0                       | 1.0          | 49  | 2.1          | 2.1            | 2.1          |
| 25               | 1.2          | 1.2                       | 1.2          | 50  | 2.1          | 2.1            | 2.1          |
| TAU-DEE ONLY     |              |                           |              |     | 1.2          | 1.7            | 2.1          |
| TAU-DELTA ONLY   |              |                           |              |     | 1.6          | 1.6            | 1.6          |
| TOTAL            |              |                           |              |     | 1.5          | 1.6            | 1.7          |

TABLE 3 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP B          | RAT(S)       | 3                         | 7            | 17  | 22             | 23             | POINT 3      |     |
|------------------|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|-----|
| CYCLE LENGTH=100 |              | CLASS INTERVAL WIDTH= 2.0 |              |     |                |                | SCHEDULE 1   |     |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 1.8          | 2.4                       | 2.5          | 26  | 2.2            | 2.3            | 2.4          |     |
| 2                | 1.3          | 2.0                       | 2.7          | 27  | 2.4            | 2.6            | 2.7          |     |
| 3                | 1.5          | 2.1                       | 2.9          | 28  | 2.4            | 2.6            | 2.7          |     |
| 4                | 1.5          | 2.1                       | 2.9          | 29  | 2.6            | 2.8            | 2.8          |     |
| 5                | 1.6          | 2.3                       | 3.3          | 30  | 2.4            | 2.6            | 2.7          |     |
| 6                | 1.4          | 2.1                       | 3.0          | 31  | 2.5            | 2.6            | 2.7          |     |
| 7                | 1.6          | 2.3                       | 3.3          | 32  | 2.5            | 2.7            | 2.8          |     |
| 8                | 1.8          | 2.6                       | 3.4          | 33  | 2.6            | 2.7            | 2.8          |     |
| 9                | 1.7          | 2.5                       | 3.6          | 34  | 2.5            | 2.7            | 2.8          |     |
| 10               | 1.4          | 2.0                       | 3.0          | 35  | 2.6            | 2.7            | 2.9          |     |
| -----            |              |                           |              |     |                |                |              |     |
| 11               | 2.3          | 2.7                       | 3.5          | 36  | 2.6            | 2.8            | 2.9          |     |
| 12               | 3.0          | 3.2                       | 3.4          | 37  | 2.5            | 2.6            | 2.8          |     |
| 13               | 2.8          | 3.0                       | 3.2          | 38  | 2.5            | 2.7            | 2.8          |     |
| 14               | 2.7          | 2.8                       | 3.0          | 39  | 2.6            | 2.7            | 2.8          |     |
| 15               | 2.6          | 2.8                       | 2.9          | 40  | 2.6            | 2.7            | 2.9          |     |
| 16               | 2.5          | 2.6                       | 2.7          | 41  | 2.6            | 2.7            | 2.8          |     |
| 17               | 2.5          | 2.6                       | 2.7          | 42  | 2.7            | 2.8            | 2.9          |     |
| 18               | 2.2          | 2.3                       | 2.4          | 43  | 2.8            | 2.9            | 3.0          |     |
| 19               | 2.5          | 2.6                       | 2.7          | 44  | 2.6            | 2.8            | 2.9          |     |
| 20               | 2.3          | 2.4                       | 2.5          | 45  | 2.6            | 2.8            | 2.9          |     |
| 21               | 2.4          | 2.5                       | 2.6          | 46  | 2.8            | 2.8            | 3.0          |     |
| 22               | 2.4          | 2.5                       | 2.6          | 47  | 2.9            | 2.9            | 3.0          |     |
| 23               | 2.4          | 2.5                       | 2.6          | 48  | 2.7            | 2.9            | 2.9          |     |
| 24               | 2.6          | 2.7                       | 2.7          | 49  | 2.6            | 2.7            | 2.8          |     |
| 25               | 2.3          | 2.4                       | 2.5          | 50  | 2.6            | 2.8            | 2.9          |     |
|                  |              |                           |              |     | TAU-DEE ONLY   | 1.6            | 2.3          | 3.1 |
|                  |              |                           |              |     | TAU-DELTA ONLY | 2.5            | 2.7          | 2.8 |
|                  |              |                           |              |     | TOTAL          | 2.3            | 2.6          | 2.8 |

TABLE 3 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP B          | RAT(S)       | 3                         | 7            | 17  | 22             | 23             | POINT 3      |     |
|------------------|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|-----|
| CYCLE LENGTH=100 |              | CLASS INTERVAL WIDTH= 2.0 |              |     |                |                | SCHEDULE 2   |     |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 1.9          | 2.8                       | 3.4          | 26  | 1.9            | 3.1            | 4.5          |     |
| 2                | 1.9          | 2.9                       | 3.9          | 27  | 2.1            | 3.2            | 4.8          |     |
| 3                | 1.7          | 2.8                       | 4.0          | 28  | 1.9            | 3.1            | 4.5          |     |
| 4                | 1.9          | 2.8                       | 4.2          | 29  | 1.9            | 3.1            | 4.6          |     |
| 5                | 1.8          | 3.0                       | 4.5          | 30  | 1.8            | 2.7            | 4.3          |     |
| 6                | 1.9          | 2.7                       | 4.1          | 31  | 2.1            | 3.3            | 4.5          |     |
| 7                | 2.2          | 3.2                       | 4.1          | 32  | 1.7            | 2.8            | 4.4          |     |
| 8                | 2.0          | 3.2                       | 4.4          | 33  | 2.2            | 3.1            | 4.3          |     |
| 9                | 1.6          | 2.8                       | 4.4          | 34  | 2.0            | 3.2            | 4.3          |     |
| 10               | 1.8          | 2.7                       | 4.3          | 35  | 1.9            | 2.9            | 4.2          |     |
| -----            |              |                           |              |     |                |                |              |     |
| 11               | 2.1          | 3.2                       | 4.4          | 36  | 1.8            | 3.0            | 4.4          |     |
| 12               | 1.8          | 3.1                       | 4.5          | 37  | 2.0            | 2.9            | 4.2          |     |
| 13               | 1.8          | 2.7                       | 4.5          | 38  | 1.9            | 3.0            | 4.2          |     |
| 14               | 2.1          | 3.2                       | 4.2          | 39  | 1.9            | 2.9            | 4.4          |     |
| 15               | 1.6          | 2.7                       | 4.3          | 40  | 2.1            | 3.1            | 4.5          |     |
| 16               | 2.0          | 2.9                       | 4.4          | 41  | 2.1            | 3.1            | 4.4          |     |
| 17               | 2.0          | 3.1                       | 4.1          | 42  | 1.7            | 2.9            | 4.2          |     |
| 18               | 1.9          | 3.0                       | 4.3          | 43  | 2.0            | 3.1            | 4.5          |     |
| 19               | 1.7          | 2.9                       | 4.6          | 44  | 1.9            | 3.0            | 4.4          |     |
| 20               | 1.8          | 2.9                       | 4.7          | 45  | 1.9            | 3.0            | 4.2          |     |
| 21               | 2.0          | 3.0                       | 4.3          | 46  | 2.0            | 3.2            | 4.5          |     |
| 22               | 1.8          | 3.0                       | 4.3          | 47  | 1.9            | 2.9            | 4.2          |     |
| 23               | 1.7          | 2.8                       | 4.1          | 48  | 2.0            | 3.3            | 4.5          |     |
| 24               | 2.0          | 3.1                       | 4.5          | 49  | 1.8            | 2.9            | 4.4          |     |
| 25               | 1.9          | 3.0                       | 4.4          | 50  | 2.1            | 3.1            | 4.5          |     |
|                  |              |                           |              |     | TAU-DEE ONLY   | 1.9            | 2.9          | 4.1 |
|                  |              |                           |              |     | TAU-DELTA ONLY | 1.9            | 3.0          | 4.4 |
|                  |              |                           |              |     | TOTAL          | 1.9            | 3.0          | 4.3 |

TABLE 3 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
(CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
(ALL RATES IN RESPONSES-PER-SECOND)

| GROUP B          |              | RAT(S) 3 7 17 22 23       |              |     | POINT 4        |                |              |     |
|------------------|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|-----|
| CYCLE LENGTH=100 |              | CLASS INTERVAL WIDTH= 2.0 |              |     | SCHEDULE 0     |                |              |     |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 1.7          | 2.0                       | 2.1          | 26  | 1.1            | 1.1            | 1.1          |     |
| 2                | 1.1          | 1.5                       | 1.7          | 27  | 1.1            | 1.1            | 1.1          |     |
| 3                | 1.1          | 1.4                       | 1.9          | 28  | 1.1            | 1.1            | 1.1          |     |
| 4                | 1.4          | 1.7                       | 2.2          | 29  | 1.1            | 1.1            | 1.1          |     |
| 5                | 1.2          | 1.6                       | 2.1          | 30  | 1.2            | 1.2            | 1.2          |     |
| 6                | 1.3          | 1.6                       | 2.2          | 31  | 1.4            | 1.4            | 1.4          |     |
| 7                | 1.5          | 1.9                       | 2.5          | 32  | 1.5            | 1.5            | 1.5          |     |
| 8                | 1.3          | 1.7                       | 2.3          | 33  | 1.5            | 1.5            | 1.5          |     |
| 9                | 1.4          | 1.8                       | 2.5          | 34  | 1.6            | 1.6            | 1.6          |     |
| 10               | 1.3          | 1.7                       | 2.3          | 35  | 1.6            | 1.6            | 1.6          |     |
| -----            |              |                           |              |     |                |                |              |     |
| 11               | 1.7          | 1.9                       | 2.5          | 36  | 1.8            | 1.8            | 1.8          |     |
| 12               | 2.5          | 2.5                       | 2.7          | 37  | 1.9            | 1.9            | 1.9          |     |
| 13               | 2.2          | 2.2                       | 2.2          | 38  | 2.0            | 2.0            | 2.0          |     |
| 14               | 1.8          | 1.8                       | 1.8          | 39  | 2.0            | 2.0            | 2.0          |     |
| 15               | 1.4          | 1.4                       | 1.4          | 40  | 2.0            | 2.0            | 2.0          |     |
| 16               | 1.2          | 1.2                       | 1.2          | 41  | 1.9            | 1.9            | 1.9          |     |
| 17               | 1.1          | 1.1                       | 1.1          | 42  | 2.1            | 2.1            | 2.1          |     |
| 18               | 0.9          | 0.9                       | 0.9          | 43  | 2.0            | 2.0            | 2.0          |     |
| 19               | 1.1          | 1.1                       | 1.1          | 44  | 2.1            | 2.1            | 2.1          |     |
| 20               | 0.8          | 0.8                       | 0.8          | 45  | 2.1            | 2.1            | 2.1          |     |
| 21               | 1.0          | 1.0                       | 1.0          | 46  | 2.2            | 2.2            | 2.2          |     |
| 22               | 1.0          | 1.0                       | 1.0          | 47  | 2.1            | 2.1            | 2.1          |     |
| 23               | 0.9          | 0.9                       | 0.9          | 48  | 2.2            | 2.2            | 2.2          |     |
| 24               | 0.9          | 0.9                       | 0.9          | 49  | 2.2            | 2.2            | 2.2          |     |
| 25               | 1.0          | 1.0                       | 1.0          | 50  | 2.2            | 2.2            | 2.2          |     |
|                  |              |                           |              |     | TAU-DEE ONLY   | 1.3            | 1.7          | 2.2 |
|                  |              |                           |              |     | TAU-DELTA ONLY | 1.6            | 1.6          | 1.6 |
|                  |              |                           |              |     | TOTAL          | 1.5            | 1.6          | 1.7 |

TABLE 3 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP B          | RAT(S)       | 3                         | 7            | 17  | 22             | 23             | POINT 4      |     |
|------------------|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|-----|
| CYCLE LENGTH=100 |              | CLASS INTERVAL WIDTH= 2.0 |              |     |                | SCHEDULE 1     |              |     |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 1.8          | 2.4                       | 2.6          | 26  | 2.2            | 2.3            | 2.3          |     |
| 2                | 1.3          | 2.0                       | 2.7          | 27  | 2.0            | 2.1            | 2.2          |     |
| 3                | 1.2          | 1.7                       | 2.6          | 28  | 2.1            | 2.2            | 2.3          |     |
| 4                | 1.6          | 2.2                       | 3.1          | 29  | 2.3            | 2.4            | 2.5          |     |
| 5                | 1.1          | 1.8                       | 2.8          | 30  | 2.2            | 2.2            | 2.3          |     |
| 6                | 1.4          | 2.0                       | 3.0          | 31  | 2.2            | 2.3            | 2.4          |     |
| 7                | 1.5          | 2.2                       | 3.2          | 32  | 2.4            | 2.5            | 2.5          |     |
| 8                | 1.5          | 2.1                       | 3.0          | 33  | 2.3            | 2.4            | 2.5          |     |
| 9                | 1.6          | 2.4                       | 3.2          | 34  | 2.3            | 2.4            | 2.5          |     |
| 10               | 1.2          | 1.8                       | 2.8          | 35  | 2.3            | 2.4            | 2.5          |     |
| -----            |              |                           |              |     |                |                |              |     |
| 11               | 2.2          | 2.4                       | 3.3          | 36  | 2.3            | 2.4            | 2.5          |     |
| 12               | 3.0          | 3.1                       | 3.4          | 37  | 2.5            | 2.5            | 2.6          |     |
| 13               | 2.8          | 3.0                       | 3.1          | 38  | 2.4            | 2.6            | 2.7          |     |
| 14               | 2.5          | 2.7                       | 2.8          | 39  | 2.2            | 2.4            | 2.5          |     |
| 15               | 2.1          | 2.3                       | 2.4          | 40  | 2.2            | 2.3            | 2.5          |     |
| 16               | 2.2          | 2.4                       | 2.5          | 41  | 2.6            | 2.7            | 2.8          |     |
| 17               | 2.2          | 2.4                       | 2.5          | 42  | 2.3            | 2.5            | 2.6          |     |
| 18               | 2.2          | 2.4                       | 2.5          | 43  | 2.4            | 2.5            | 2.6          |     |
| 19               | 2.1          | 2.2                       | 2.4          | 44  | 2.5            | 2.6            | 2.7          |     |
| 20               | 2.0          | 2.0                       | 2.2          | 45  | 2.5            | 2.6            | 2.7          |     |
| 21               | 2.3          | 2.3                       | 2.4          | 46  | 2.7            | 2.9            | 2.9          |     |
| 22               | 2.2          | 2.2                       | 2.3          | 47  | 2.4            | 2.6            | 2.7          |     |
| 23               | 1.9          | 2.0                       | 2.1          | 48  | 2.4            | 2.5            | 2.6          |     |
| 24               | 2.1          | 2.2                       | 2.3          | 49  | 2.5            | 2.7            | 2.8          |     |
| 25               | 2.1          | 2.2                       | 2.2          | 50  | 2.4            | 2.6            | 2.7          |     |
|                  |              |                           |              |     | TAU-DEE ONLY   | 1.4            | 2.1          | 2.9 |
|                  |              |                           |              |     | TAU-DELTA ONLY | 2.3            | 2.4          | 2.5 |
|                  |              |                           |              |     | TOTAL          | 2.1            | 2.4          | 2.6 |

TABLE 3 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP B                   |      | RAT(S)                    |      |                           | POINT 4 |      |            |
|---------------------------|------|---------------------------|------|---------------------------|---------|------|------------|
| CYCLE LENGTH=100          |      | 3                         | 7    | 17                        | 22      | 23   | SCHEDULE 2 |
|                           |      | CLASS INTERVAL WIDTH= 2.0 |      |                           |         |      |            |
| OVERALL CORRECTED RUNNING |      |                           |      | OVERALL CORRECTED RUNNING |         |      |            |
| INT                       | RATE | RATE                      | RATE | INT                       | RATE    | RATE | RATE       |
| 1                         | 1.8  | 2.5                       | 3.6  | 26                        | 1.8     | 2.8  | 4.1        |
| 2                         | 2.0  | 3.0                       | 4.1  | 27                        | 1.9     | 3.2  | 4.6        |
| 3                         | 1.8  | 3.0                       | 4.1  | 28                        | 1.5     | 2.5  | 4.3        |
| 4                         | 1.8  | 2.9                       | 4.2  | 29                        | 1.8     | 2.8  | 4.3        |
| 5                         | 1.9  | 3.0                       | 4.5  | 30                        | 2.0     | 3.2  | 4.5        |
| 6                         | 1.7  | 2.7                       | 4.5  | 31                        | 1.7     | 2.9  | 4.4        |
| 7                         | 2.0  | 2.9                       | 4.3  | 32                        | 1.7     | 2.7  | 4.1        |
| 8                         | 1.9  | 3.1                       | 4.4  | 33                        | 1.9     | 3.1  | 4.7        |
| 9                         | 1.8  | 2.9                       | 4.4  | 34                        | 2.0     | 3.1  | 4.6        |
| 10                        | 2.0  | 2.9                       | 4.4  | 35                        | 1.9     | 3.0  | 4.4        |
| -----                     |      |                           |      |                           |         |      |            |
| 11                        | 2.0  | 3.1                       | 4.4  | 36                        | 1.9     | 3.2  | 4.6        |
| 12                        | 2.0  | 3.0                       | 4.3  | 37                        | 1.8     | 2.9  | 4.5        |
| 13                        | 2.0  | 3.1                       | 4.6  | 38                        | 2.0     | 3.0  | 4.6        |
| 14                        | 1.9  | 2.9                       | 4.4  | 39                        | 2.1     | 3.3  | 4.5        |
| 15                        | 1.9  | 3.3                       | 4.7  | 40                        | 1.8     | 3.0  | 4.6        |
| 16                        | 1.7  | 2.8                       | 4.6  | 41                        | 1.8     | 2.8  | 4.4        |
| 17                        | 1.9  | 3.0                       | 4.6  | 42                        | 1.9     | 2.9  | 4.3        |
| 18                        | 2.1  | 3.2                       | 4.5  | 43                        | 1.9     | 2.9  | 4.2        |
| 19                        | 1.6  | 2.7                       | 4.2  | 44                        | 1.8     | 2.8  | 4.3        |
| 20                        | 1.8  | 2.8                       | 4.3  | 45                        | 1.7     | 3.0  | 4.5        |
| 21                        | 1.8  | 3.1                       | 4.5  | 46                        | 1.7     | 2.7  | 4.3        |
| 22                        | 1.7  | 2.7                       | 4.5  | 47                        | 1.9     | 3.0  | 4.3        |
| 23                        | 1.6  | 2.5                       | 4.1  | 48                        | 1.8     | 2.9  | 4.3        |
| 24                        | 2.0  | 3.1                       | 4.6  | 49                        | 1.6     | 2.9  | 4.9        |
| 25                        | 1.9  | 2.9                       | 4.7  | 50                        | 1.7     | 2.8  | 4.5        |
| TAU-DEE ONLY              |      |                           |      |                           | 1.9     | 2.9  | 4.2        |
| TAU-DELTA ONLY            |      |                           |      |                           | 1.8     | 2.9  | 4.4        |
| TOTAL                     |      |                           |      |                           | 1.8     | 2.9  | 4.4        |

TABLE 3 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP B          | RAT(S)       | 3                         | 7            | 17  | 22           | 23             | POINT 5      |
|------------------|--------------|---------------------------|--------------|-----|--------------|----------------|--------------|
| CYCLE LENGTH=100 |              | CLASS INTERVAL WIDTH= 2.0 |              |     |              |                | SCHEDULE 0   |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE | CORRECTED RATE | RUNNING RATE |
| 1                | 1.8          | 2.1                       | 2.2          | 26  | 0.7          | 0.7            | 0.7          |
| 2                | 1.1          | 1.7                       | 2.1          | 27  | 0.8          | 0.8            | 0.8          |
| 3                | 1.1          | 1.4                       | 2.1          | 28  | 1.0          | 1.0            | 1.0          |
| 4                | 1.4          | 1.9                       | 2.5          | 29  | 0.9          | 0.9            | 0.9          |
| 5                | 1.4          | 1.9                       | 2.6          | 30  | 1.0          | 1.0            | 1.0          |
| 6                | 1.4          | 1.9                       | 2.6          | 31  | 0.9          | 0.9            | 0.9          |
| 7                | 1.4          | 1.9                       | 2.7          | 32  | 1.1          | 1.1            | 1.1          |
| 8                | 1.4          | 1.9                       | 2.6          | 33  | 1.2          | 1.2            | 1.2          |
| 9                | 1.4          | 1.9                       | 2.6          | 34  | 1.4          | 1.4            | 1.4          |
| 10               | 1.2          | 1.8                       | 2.6          | 35  | 1.3          | 1.3            | 1.3          |
| -----            |              |                           |              |     |              |                |              |
| 11               | 1.8          | 2.0                       | 2.8          | 36  | 1.5          | 1.5            | 1.5          |
| 12               | 2.7          | 2.7                       | 3.1          | 37  | 1.7          | 1.7            | 1.7          |
| 13               | 2.2          | 2.2                       | 2.2          | 38  | 1.5          | 1.5            | 1.5          |
| 14               | 1.6          | 1.6                       | 1.6          | 39  | 1.7          | 1.7            | 1.7          |
| 15               | 1.1          | 1.1                       | 1.1          | 40  | 1.7          | 1.7            | 1.7          |
| 16               | 0.8          | 0.8                       | 0.8          | 41  | 1.7          | 1.7            | 1.7          |
| 17               | 0.7          | 0.7                       | 0.7          | 42  | 1.9          | 1.9            | 1.9          |
| 18               | 0.5          | 0.5                       | 0.5          | 43  | 2.1          | 2.1            | 2.1          |
| 19               | 0.4          | 0.4                       | 0.4          | 44  | 2.0          | 2.0            | 2.0          |
| 20               | 0.5          | 0.5                       | 0.5          | 45  | 2.2          | 2.2            | 2.2          |
| 21               | 0.5          | 0.5                       | 0.5          | 46  | 2.1          | 2.1            | 2.1          |
| 22               | 0.5          | 0.5                       | 0.5          | 47  | 2.2          | 2.2            | 2.2          |
| 23               | 0.5          | 0.5                       | 0.5          | 48  | 2.4          | 2.4            | 2.4          |
| 24               | 0.7          | 0.7                       | 0.7          | 49  | 2.4          | 2.4            | 2.4          |
| 25               | 0.7          | 0.7                       | 0.7          | 50  | 2.3          | 2.3            | 2.3          |
| TAU-DEE ONLY     |              |                           |              |     | 1.4          | 1.8            | 2.4          |
| TAU-DELTA ONLY   |              |                           |              |     | 1.4          | 1.4            | 1.4          |
| TOTAL            |              |                           |              |     | 1.4          | 1.5            | 1.5          |

TABLE 3 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP B          | RAT(S)       | 3                         | 7            | 17  | 22             | 23             | POINT 5      |     |
|------------------|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|-----|
| CYCLE LENGTH=100 |              | CLASS INTERVAL WIDTH= 2.0 |              |     |                |                | SCHEDULE 1   |     |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 1.9          | 2.4                       | 2.7          | 26  | 2.2            | 2.3            | 2.4          |     |
| 2                | 1.4          | 2.3                       | 3.4          | 27  | 2.4            | 2.4            | 2.6          |     |
| 3                | 1.4          | 2.1                       | 3.4          | 28  | 2.3            | 2.4            | 2.5          |     |
| 4                | 1.6          | 2.5                       | 3.7          | 29  | 2.4            | 2.5            | 2.6          |     |
| 5                | 1.7          | 2.4                       | 3.9          | 30  | 2.3            | 2.4            | 2.5          |     |
| 6                | 1.4          | 2.1                       | 3.2          | 31  | 2.4            | 2.5            | 2.6          |     |
| 7                | 1.6          | 2.3                       | 3.7          | 32  | 2.3            | 2.4            | 2.6          |     |
| 8                | 1.6          | 2.4                       | 3.6          | 33  | 2.3            | 2.4            | 2.7          |     |
| 9                | 1.6          | 2.4                       | 3.7          | 34  | 2.4            | 2.5            | 2.7          |     |
| 10               | 1.7          | 2.4                       | 3.7          | 35  | 2.5            | 2.7            | 2.8          |     |
| -----            |              |                           |              |     |                |                |              |     |
| 11               | 2.3          | 2.8                       | 3.8          | 36  | 2.4            | 2.6            | 2.8          |     |
| 12               | 3.0          | 3.3                       | 3.8          | 37  | 2.4            | 2.6            | 2.8          |     |
| 13               | 3.0          | 3.2                       | 3.5          | 38  | 2.8            | 2.8            | 3.0          |     |
| 14               | 2.5          | 2.7                       | 3.0          | 39  | 2.7            | 2.7            | 2.8          |     |
| 15               | 2.5          | 2.7                       | 2.9          | 40  | 2.9            | 3.0            | 3.1          |     |
| 16               | 2.3          | 2.4                       | 2.6          | 41  | 2.5            | 2.6            | 2.8          |     |
| 17               | 2.3          | 2.3                       | 2.5          | 42  | 2.5            | 2.6            | 2.8          |     |
| 18               | 2.4          | 2.5                       | 2.6          | 43  | 2.5            | 2.7            | 2.9          |     |
| 19               | 2.3          | 2.4                       | 2.6          | 44  | 2.5            | 2.6            | 2.9          |     |
| 20               | 2.3          | 2.4                       | 2.5          | 45  | 2.7            | 2.9            | 3.1          |     |
| 21               | 2.2          | 2.3                       | 2.4          | 46  | 2.6            | 2.8            | 3.1          |     |
| 22               | 2.1          | 2.2                       | 2.3          | 47  | 2.6            | 2.7            | 3.0          |     |
| 23               | 2.0          | 2.1                       | 2.2          | 48  | 2.6            | 2.8            | 2.9          |     |
| 24               | 2.1          | 2.2                       | 2.3          | 49  | 2.5            | 2.7            | 2.9          |     |
| 25               | 2.0          | 2.2                       | 2.3          | 50  | 2.8            | 2.9            | 3.1          |     |
|                  |              |                           |              |     | TAU-DEE ONLY   | 1.6            | 2.3          | 3.5 |
|                  |              |                           |              |     | TAU-DELTA ONLY | 2.4            | 2.6          | 2.8 |
|                  |              |                           |              |     | TOTAL          | 2.3            | 2.5          | 2.8 |

TABLE 3 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP B                   |      | RAT(S) 3 7 17 22 23       |      |                           | POINT 5        |      |      |     |
|---------------------------|------|---------------------------|------|---------------------------|----------------|------|------|-----|
| CYCLE LENGTH=100          |      | CLASS INTERVAL WIDTH= 2.0 |      |                           | SCHEDULE 2     |      |      |     |
| OVERALL CORRECTED RUNNING |      |                           |      | OVERALL CORRECTED RUNNING |                |      |      |     |
| INT                       | RATE | RATE                      | RATE | INT                       | RATE           | RATE | RATE |     |
| 1                         | 1.9  | 2.9                       | 3.7  | 26                        | 2.0            | 3.3  | 4.9  |     |
| 2                         | 1.8  | 3.0                       | 4.2  | 27                        | 1.9            | 3.4  | 5.0  |     |
| 3                         | 2.0  | 3.2                       | 4.6  | 28                        | 1.9            | 3.4  | 5.2  |     |
| 4                         | 2.0  | 3.2                       | 4.6  | 29                        | 2.1            | 3.3  | 4.8  |     |
| 5                         | 1.9  | 3.1                       | 4.5  | 30                        | 2.0            | 3.6  | 4.9  |     |
| 6                         | 2.4  | 3.4                       | 4.6  | 31                        | 2.1            | 3.4  | 4.9  |     |
| 7                         | 2.2  | 3.5                       | 4.5  | 32                        | 2.1            | 3.4  | 5.1  |     |
| 8                         | 2.1  | 3.4                       | 4.9  | 33                        | 2.1            | 3.4  | 5.1  |     |
| 9                         | 2.1  | 3.2                       | 4.6  | 34                        | 2.1            | 3.4  | 4.9  |     |
| 10                        | 2.2  | 3.5                       | 4.8  | 35                        | 2.0            | 3.6  | 5.2  |     |
| -----                     |      |                           |      |                           |                |      |      |     |
| 11                        | 2.1  | 3.5                       | 5.2  | 36                        | 1.9            | 3.2  | 4.9  |     |
| 12                        | 2.0  | 3.4                       | 5.0  | 37                        | 1.9            | 3.4  | 4.9  |     |
| 13                        | 1.9  | 3.2                       | 4.9  | 38                        | 2.1            | 3.3  | 4.9  |     |
| 14                        | 2.3  | 3.5                       | 5.0  | 39                        | 2.0            | 3.8  | 5.3  |     |
| 15                        | 2.3  | 3.6                       | 4.8  | 40                        | 1.9            | 3.1  | 4.9  |     |
| 16                        | 2.0  | 3.4                       | 5.0  | 41                        | 1.9            | 3.4  | 5.0  |     |
| 17                        | 1.8  | 3.2                       | 4.9  | 42                        | 2.1            | 3.3  | 5.2  |     |
| 18                        | 2.1  | 3.4                       | 5.1  | 43                        | 2.3            | 3.7  | 5.2  |     |
| 19                        | 2.2  | 3.5                       | 4.9  | 44                        | 2.0            | 3.3  | 4.8  |     |
| 20                        | 2.1  | 3.5                       | 4.8  | 45                        | 2.2            | 3.5  | 5.0  |     |
| 21                        | 2.1  | 3.5                       | 4.8  | 46                        | 2.1            | 3.4  | 4.6  |     |
| 22                        | 1.9  | 3.2                       | 4.6  | 47                        | 2.1            | 3.3  | 4.7  |     |
| 23                        | 2.1  | 3.4                       | 5.0  | 48                        | 1.9            | 3.4  | 4.8  |     |
| 24                        | 2.1  | 3.5                       | 4.9  | 49                        | 2.0            | 3.2  | 4.8  |     |
| 25                        | 1.9  | 3.2                       | 4.8  | 50                        | 2.1            | 3.5  | 4.9  |     |
|                           |      |                           |      |                           | TAU-DEE ONLY   | 2.1  | 3.3  | 4.5 |
|                           |      |                           |      |                           | TAU-DELTA ONLY | 2.0  | 3.4  | 4.9 |
|                           |      |                           |      |                           | TOTAL          | 2.0  | 3.4  | 4.8 |

TABLE 4

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP C                   | RAT(S) | 2                         | 10   | 11                        | 16   | 18         | POINT 1 |
|---------------------------|--------|---------------------------|------|---------------------------|------|------------|---------|
| CYCLE LENGTH=500          |        | CLASS INTERVAL WIDTH=10.0 |      |                           |      | SCHEDULE 0 |         |
| OVERALL CORRECTED RUNNING |        |                           |      | OVERALL CORRECTED RUNNING |      |            |         |
| INT                       | RATE   | RATE                      | RATE | INT                       | RATE | RATE       | RATE    |
| 1                         | 0.3    | 0.8                       | 1.7  | 26                        | 0.4  | 0.4        | 0.4     |
| 2                         | 0.3    | 1.0                       | 9.1  | 27                        | 0.3  | 0.3        | 0.3     |
| 3                         | 0.3    | 1.1                       | 10.0 | 28                        | 0.4  | 0.4        | 0.4     |
| 4                         | 0.3    | 0.9                       | 9.1  | 29                        | 0.3  | 0.3        | 0.3     |
| 5                         | 0.3    | 1.1                       | 9.9  | 30                        | 0.3  | 0.3        | 0.3     |
| 6                         | 0.3    | 1.0                       | 0.0  | 31                        | 0.3  | 0.3        | 0.3     |
| 7                         | 0.3    | 1.2                       | 0.0  | 32                        | 0.5  | 0.5        | 0.5     |
| 8                         | 0.3    | 1.0                       | 0.0  | 33                        | 0.4  | 0.4        | 0.4     |
| 9                         | 0.3    | 1.0                       | 0.0  | 34                        | 0.6  | 0.6        | 0.6     |
| 10                        | 0.3    | 1.0                       | 0.0  | 35                        | 0.4  | 0.4        | 0.4     |
| -----                     |        |                           |      |                           |      |            |         |
| 11                        | 0.7    | 0.7                       | 0.8  | 36                        | 0.3  | 0.3        | 0.3     |
| 12                        | 0.4    | 0.4                       | 0.4  | 37                        | 0.5  | 0.5        | 0.5     |
| 13                        | 0.3    | 0.3                       | 0.3  | 38                        | 0.5  | 0.5        | 0.5     |
| 14                        | 0.4    | 0.4                       | 0.4  | 39                        | 0.4  | 0.4        | 0.4     |
| 15                        | 0.4    | 0.4                       | 0.4  | 40                        | 0.4  | 0.4        | 0.4     |
| 16                        | 0.3    | 0.3                       | 0.3  | 41                        | 0.5  | 0.5        | 0.5     |
| 17                        | 0.2    | 0.2                       | 0.2  | 42                        | 0.3  | 0.3        | 0.3     |
| 18                        | 0.3    | 0.3                       | 0.3  | 43                        | 0.3  | 0.3        | 0.3     |
| 19                        | 0.4    | 0.4                       | 0.4  | 44                        | 0.4  | 0.4        | 0.4     |
| 20                        | 0.3    | 0.3                       | 0.3  | 45                        | 0.5  | 0.5        | 0.5     |
| 21                        | 0.4    | 0.4                       | 0.4  | 46                        | 0.4  | 0.4        | 0.4     |
| 22                        | 0.4    | 0.4                       | 0.4  | 47                        | 0.4  | 0.4        | 0.4     |
| 23                        | 0.5    | 0.5                       | 0.5  | 48                        | 0.3  | 0.3        | 0.3     |
| 24                        | 0.3    | 0.3                       | 0.3  | 49                        | 0.3  | 0.3        | 0.3     |
| 25                        | 0.5    | 0.5                       | 0.5  | 50                        | 0.3  | 0.3        | 0.3     |
| TAU-DEE ONLY              |        |                           |      |                           | 0.3  | 1.0        | 9.7     |
| TAU-DELTA ONLY            |        |                           |      |                           | 0.4  | 0.4        | 0.4     |
| TOTAL                     |        |                           |      |                           | 0.4  | 0.4        | 0.5     |

TABLE 4 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP C          | RAT(S)       | 2                         | 10           | 11  | 16             | 18             | POINT 1      |     |
|------------------|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|-----|
| CYCLE LENGTH=500 |              | CLASS INTERVAL WIDTH=10.0 |              |     |                |                | SCHEDULE 1   |     |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 0.3          | 0.9                       | 2.4          | 26  | 0.9            | 0.9            | 0.9          |     |
| 2                | 0.3          | 1.2                       | 0.0          | 27  | 1.0            | 1.0            | 1.0          |     |
| 3                | 0.3          | 1.2                       | 0.0          | 28  | 1.2            | 1.3            | 1.3          |     |
| 4                | 0.3          | 1.3                       | 0.0          | 29  | 1.1            | 1.2            | 1.2          |     |
| 5                | 0.3          | 1.2                       | 0.0          | 30  | 1.3            | 1.3            | 1.3          |     |
| 6                | 0.3          | 1.1                       | 0.0          | 31  | 1.1            | 1.1            | 1.2          |     |
| 7                | 0.3          | 1.1                       | 0.0          | 32  | 1.2            | 1.2            | 1.2          |     |
| 8                | 0.3          | 0.9                       | 0.0          | 33  | 1.1            | 1.1            | 1.2          |     |
| 9                | 0.3          | 1.1                       | 0.0          | 34  | 0.9            | 1.0            | 1.0          |     |
| 10               | 0.3          | 1.1                       | 0.0          | 35  | 1.1            | 1.1            | 1.1          |     |
| -----            |              |                           |              |     |                |                |              |     |
| 11               | 1.1          | 1.2                       | 1.3          | 36  | 1.2            | 1.2            | 1.2          |     |
| 12               | 1.0          | 1.0                       | 1.1          | 37  | 1.0            | 1.1            | 1.1          |     |
| 13               | 1.0          | 1.0                       | 1.0          | 38  | 0.9            | 1.0            | 1.0          |     |
| 14               | 1.1          | 1.1                       | 1.1          | 39  | 1.0            | 1.0            | 1.0          |     |
| 15               | 0.9          | 0.9                       | 0.9          | 40  | 1.2            | 1.2            | 1.3          |     |
| 16               | 0.8          | 0.9                       | 0.9          | 41  | 1.4            | 1.4            | 1.4          |     |
| 17               | 0.9          | 0.9                       | 1.0          | 42  | 1.2            | 1.2            | 1.2          |     |
| 18               | 1.2          | 1.2                       | 1.3          | 43  | 1.0            | 1.0            | 1.0          |     |
| 19               | 1.2          | 1.2                       | 1.2          | 44  | 1.1            | 1.1            | 1.1          |     |
| 20               | 1.1          | 1.1                       | 1.2          | 45  | 1.1            | 1.1            | 1.1          |     |
| 21               | 1.0          | 1.0                       | 1.1          | 46  | 1.1            | 1.2            | 1.2          |     |
| 22               | 1.1          | 1.2                       | 1.2          | 47  | 1.0            | 1.1            | 1.1          |     |
| 23               | 1.4          | 1.4                       | 1.4          | 48  | 1.3            | 1.3            | 1.3          |     |
| 24               | 1.1          | 1.1                       | 1.1          | 49  | 1.3            | 1.3            | 1.3          |     |
| 25               | 1.2          | 1.3                       | 1.3          | 50  | 1.1            | 1.2            | 1.2          |     |
|                  |              |                           |              |     | TAU-DEE ONLY   | 0.3            | 1.1          | 0.0 |
|                  |              |                           |              |     | TAU-DELTA ONLY | 1.1            | 1.1          | 1.2 |
|                  |              |                           |              |     | TOTAL          | 0.9            | 1.1          | 1.2 |

TABLE 4 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
(CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
(ALL RATES IN RESPONSES-PER-SECOND)

| GROUP C                   | RAT(S) | 2                         | 10   | 11                        | 16             | 18         | POINT 1 |     |
|---------------------------|--------|---------------------------|------|---------------------------|----------------|------------|---------|-----|
| CYCLE LENGTH=500          |        | CLASS INTERVAL WIDTH=10.0 |      |                           |                | SCHEDULE 2 |         |     |
| OVERALL CORRECTED RUNNING |        |                           |      | OVERALL CORRECTED RUNNING |                |            |         |     |
| INT                       | RATE   | RATE                      | RATE | INT                       | RATE           | RATE       | RATE    |     |
| 1                         | 0.3    | 0.7                       | 1.3  | 26                        | 1.7            | 2.6        | 3.2     |     |
| 2                         | 0.3    | 1.2                       | 0.0  | 27                        | 1.9            | 2.9        | 3.6     |     |
| 3                         | 0.4    | 1.3                       | 0.0  | 28                        | 1.8            | 2.8        | 3.4     |     |
| 4                         | 0.3    | 1.0                       | 0.0  | 29                        | 1.8            | 2.9        | 3.5     |     |
| 5                         | 0.4    | 1.4                       | 0.0  | 30                        | 1.8            | 2.8        | 3.5     |     |
| 6                         | 0.3    | 1.2                       | 0.0  | 31                        | 1.6            | 2.6        | 3.4     |     |
| 7                         | 0.4    | 1.3                       | 0.0  | 32                        | 1.8            | 2.8        | 3.5     |     |
| 8                         | 0.3    | 1.2                       | 0.0  | 33                        | 1.6            | 2.5        | 3.2     |     |
| 9                         | 0.3    | 1.2                       | 0.0  | 34                        | 1.7            | 2.6        | 3.2     |     |
| 10                        | 0.3    | 1.1                       | 0.0  | 35                        | 1.8            | 2.7        | 3.3     |     |
| -----                     |        |                           |      |                           |                |            |         |     |
| 11                        | 1.0    | 1.5                       | 2.0  | 36                        | 1.5            | 2.6        | 3.6     |     |
| 12                        | 1.4    | 2.2                       | 2.7  | 37                        | 1.5            | 2.3        | 2.9     |     |
| 13                        | 1.5    | 2.4                       | 2.9  | 38                        | 1.5            | 2.6        | 3.4     |     |
| 14                        | 1.9    | 2.8                       | 3.4  | 39                        | 1.6            | 2.4        | 3.1     |     |
| 15                        | 1.6    | 2.5                       | 3.3  | 40                        | 1.7            | 2.5        | 3.1     |     |
| 16                        | 1.7    | 2.6                       | 3.4  | 41                        | 1.7            | 2.6        | 3.2     |     |
| 17                        | 1.6    | 2.5                       | 3.3  | 42                        | 1.7            | 2.6        | 3.1     |     |
| 18                        | 1.9    | 2.8                       | 3.4  | 43                        | 2.0            | 2.8        | 3.2     |     |
| 19                        | 1.5    | 2.6                       | 3.6  | 44                        | 1.7            | 2.7        | 3.4     |     |
| 20                        | 1.7    | 2.8                       | 3.6  | 45                        | 1.7            | 2.6        | 3.4     |     |
| 21                        | 1.7    | 2.7                       | 3.5  | 46                        | 1.7            | 2.6        | 3.3     |     |
| 22                        | 1.8    | 2.9                       | 3.6  | 47                        | 1.7            | 2.7        | 3.4     |     |
| 23                        | 1.7    | 2.7                       | 3.4  | 48                        | 1.7            | 2.5        | 3.1     |     |
| 24                        | 1.7    | 2.8                       | 3.7  | 49                        | 1.6            | 2.5        | 3.2     |     |
| 25                        | 1.8    | 2.9                       | 3.7  | 50                        | 1.8            | 2.6        | 3.2     |     |
|                           |        |                           |      |                           | TAU-DEE ONLY   | 0.3        | 1.1     | 0.0 |
|                           |        |                           |      |                           | TAU-DELTA ONLY | 1.7        | 2.6     | 3.3 |
|                           |        |                           |      |                           | TOTAL          | 1.4        | 2.5     | 3.4 |

TABLE 4 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP C                   |      | RAT(S) 2 10 11 16 18      |      |                           | POINT 2    |      |      |
|---------------------------|------|---------------------------|------|---------------------------|------------|------|------|
| CYCLE LENGTH=100          |      | CLASS INTERVAL WIDTH= 2.0 |      |                           | SCHEDULE 0 |      |      |
| OVERALL CORRECTED RUNNING |      |                           |      | OVERALL CORRECTED RUNNING |            |      |      |
| INT                       | RATE | RATE                      | RATE | INT                       | RATE       | RATE | RATE |
| 1                         | 0.4  | 1.9                       | 1.9  | 26                        | 0.9        | 0.9  | 0.9  |
| 2                         | 0.4  | 0.9                       | 7.0  | 27                        | 1.1        | 1.1  | 1.1  |
| 3                         | 0.3  | 1.1                       | 7.8  | 28                        | 1.2        | 1.2  | 1.2  |
| 4                         | 0.3  | 1.1                       | 8.0  | 29                        | 1.2        | 1.2  | 1.2  |
| 5                         | 0.3  | 1.1                       | 0.0  | 30                        | 1.3        | 1.3  | 1.3  |
| 6                         | 0.4  | 1.4                       | 0.0  | 31                        | 1.4        | 1.4  | 1.4  |
| 7                         | 0.4  | 1.3                       | 0.0  | 32                        | 1.5        | 1.5  | 1.5  |
| 8                         | 0.3  | 1.2                       | 0.0  | 33                        | 1.7        | 1.7  | 1.7  |
| 9                         | 0.4  | 1.8                       | 0.0  | 34                        | 1.6        | 1.6  | 1.6  |
| 10                        | 0.4  | 1.4                       | 0.0  | 35                        | 2.0        | 2.0  | 2.0  |
| -----                     |      |                           |      |                           |            |      |      |
| 11                        | 0.6  | 0.9                       | 1.6  | 36                        | 1.9        | 1.9  | 1.9  |
| 12                        | 0.7  | 0.7                       | 0.7  | 37                        | 2.0        | 2.0  | 2.0  |
| 13                        | 0.5  | 0.5                       | 0.5  | 38                        | 2.1        | 2.1  | 2.1  |
| 14                        | 0.4  | 0.4                       | 0.4  | 39                        | 2.1        | 2.1  | 2.1  |
| 15                        | 0.4  | 0.4                       | 0.4  | 40                        | 2.1        | 2.1  | 2.1  |
| 16                        | 0.4  | 0.4                       | 0.4  | 41                        | 2.2        | 2.2  | 2.2  |
| 17                        | 0.5  | 0.5                       | 0.5  | 42                        | 2.4        | 2.4  | 2.4  |
| 18                        | 0.5  | 0.5                       | 0.5  | 43                        | 2.3        | 2.3  | 2.3  |
| 19                        | 0.6  | 0.6                       | 0.6  | 44                        | 2.4        | 2.4  | 2.4  |
| 20                        | 0.5  | 0.5                       | 0.5  | 45                        | 2.5        | 2.5  | 2.5  |
| 21                        | 0.6  | 0.6                       | 0.6  | 46                        | 2.4        | 2.4  | 2.4  |
| 22                        | 0.6  | 0.6                       | 0.6  | 47                        | 2.6        | 2.6  | 2.6  |
| 23                        | 0.7  | 0.7                       | 0.7  | 48                        | 2.4        | 2.4  | 2.4  |
| 24                        | 0.8  | 0.8                       | 0.8  | 49                        | 2.5        | 2.5  | 2.5  |
| 25                        | 0.9  | 0.9                       | 0.9  | 50                        | 2.5        | 2.5  | 2.5  |
| TAU-DEE ONLY              |      |                           |      |                           | 0.4        | 1.3  | 8.2  |
| TAU-DELTA ONLY            |      |                           |      |                           | 1.4        | 1.4  | 1.5  |
| TOTAL                     |      |                           |      |                           | 1.2        | 1.4  | 1.5  |

TABLE 4 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP C          | RAT(S)       | 2                         | 10           | 11  | 16           | 18             | POINT 2      |
|------------------|--------------|---------------------------|--------------|-----|--------------|----------------|--------------|
| CYCLE LENGTH=100 |              | CLASS INTERVAL WIDTH= 2.0 |              |     |              | SCHEDULE 1     |              |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE | CORRECTED RATE | RUNNING RATE |
| 1                | 0.4          | 2.2                       | 2.7          | 26  | 1.9          | 2.0            | 2.1          |
| 2                | 0.4          | 1.2                       | 0.0          | 27  | 2.0          | 2.1            | 2.1          |
| 3                | 0.4          | 1.4                       | 0.0          | 28  | 2.1          | 2.1            | 2.2          |
| 4                | 0.3          | 1.5                       | 0.0          | 29  | 2.1          | 2.1            | 2.2          |
| 5                | 0.4          | 1.7                       | 0.0          | 30  | 2.1          | 2.3            | 2.3          |
| 6                | 0.4          | 1.3                       | 0.0          | 31  | 2.1          | 2.2            | 2.3          |
| 7                | 0.4          | 1.5                       | 0.0          | 32  | 2.3          | 2.4            | 2.5          |
| 8                | 0.3          | 1.3                       | 0.0          | 33  | 2.2          | 2.4            | 2.4          |
| 9                | 0.4          | 1.5                       | 0.0          | 34  | 2.3          | 2.4            | 2.5          |
| 10               | 0.4          | 1.3                       | 0.0          | 35  | 2.6          | 2.7            | 2.7          |
| 11               | 0.6          | 1.0                       | 1.6          | 36  | 2.4          | 2.5            | 2.6          |
| 12               | 1.2          | 1.2                       | 1.3          | 37  | 2.4          | 2.6            | 2.6          |
| 13               | 1.3          | 1.3                       | 1.3          | 38  | 2.7          | 2.8            | 2.9          |
| 14               | 1.4          | 1.4                       | 1.4          | 39  | 2.5          | 2.6            | 2.7          |
| 15               | 1.4          | 1.4                       | 1.5          | 40  | 2.5          | 2.6            | 2.7          |
| 16               | 1.5          | 1.5                       | 1.5          | 41  | 2.6          | 2.8            | 2.8          |
| 17               | 1.6          | 1.7                       | 1.7          | 42  | 2.5          | 2.7            | 2.8          |
| 18               | 1.5          | 1.5                       | 1.6          | 43  | 2.5          | 2.6            | 2.7          |
| 19               | 1.4          | 1.5                       | 1.5          | 44  | 2.6          | 2.7            | 2.8          |
| 20               | 1.7          | 1.7                       | 1.8          | 45  | 2.7          | 2.8            | 2.8          |
| 21               | 1.8          | 1.9                       | 1.9          | 46  | 2.5          | 2.6            | 2.6          |
| 22               | 1.7          | 1.8                       | 1.8          | 47  | 2.6          | 2.6            | 2.7          |
| 23               | 1.8          | 1.8                       | 1.9          | 48  | 2.7          | 2.8            | 2.8          |
| 24               | 1.9          | 2.0                       | 2.0          | 49  | 2.5          | 2.6            | 2.7          |
| 25               | 2.0          | 2.1                       | 2.2          | 50  | 2.6          | 2.8            | 2.9          |
| TAU-DEE ONLY     |              |                           |              |     | 0.4          | 1.5            | 0.0          |
| TAU-DELTA ONLY   |              |                           |              |     | 2.1          | 2.2            | 2.2          |
| TOTAL            |              |                           |              |     | 1.7          | 2.1            | 2.3          |

TABLE 4 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP C          | RAT(S)       | 2                         | 10           | 11  | 16             | 18             | POINT 2      |     |
|------------------|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|-----|
| CYCLE LENGTH=100 |              | CLASS INTERVAL WIDTH= 2.0 |              |     |                | SCHEDULE 2     |              |     |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 0.4          | 1.9                       | 3.2          | 26  | 1.8            | 2.8            | 3.3          |     |
| 2                | 0.4          | 1.5                       | 0.0          | 27  | 1.6            | 2.7            | 3.2          |     |
| 3                | 0.4          | 1.4                       | 0.0          | 28  | 1.7            | 2.5            | 3.2          |     |
| 4                | 0.3          | 1.4                       | 0.0          | 29  | 1.8            | 2.6            | 3.1          |     |
| 5                | 0.4          | 1.4                       | 0.0          | 30  | 1.8            | 2.6            | 3.1          |     |
| 6                | 0.4          | 1.3                       | 0.0          | 31  | 1.6            | 2.7            | 3.2          |     |
| 7                | 0.4          | 1.4                       | 0.0          | 32  | 1.5            | 2.6            | 3.2          |     |
| 8                | 0.3          | 1.3                       | 0.0          | 33  | 1.8            | 2.8            | 3.4          |     |
| 9                | 0.4          | 1.8                       | 0.0          | 34  | 1.8            | 2.9            | 3.5          |     |
| 10               | 0.4          | 1.3                       | 0.0          | 35  | 1.6            | 2.7            | 3.3          |     |
| -----            |              |                           |              |     |                |                |              |     |
| 11               | 0.7          | 1.2                       | 2.1          | 36  | 1.7            | 2.5            | 3.0          |     |
| 12               | 1.2          | 1.6                       | 1.9          | 37  | 1.8            | 2.7            | 3.1          |     |
| 13               | 1.4          | 2.1                       | 2.4          | 38  | 1.6            | 2.7            | 3.2          |     |
| 14               | 1.5          | 2.3                       | 2.7          | 39  | 1.6            | 2.4            | 3.0          |     |
| 15               | 1.6          | 2.4                       | 2.8          | 40  | 1.9            | 2.7            | 3.1          |     |
| 16               | 1.8          | 2.8                       | 3.2          | 41  | 1.9            | 2.9            | 3.4          |     |
| 17               | 1.7          | 2.7                       | 3.2          | 42  | 1.7            | 2.7            | 3.2          |     |
| 18               | 1.9          | 2.7                       | 3.3          | 43  | 1.7            | 2.7            | 3.2          |     |
| 19               | 1.9          | 2.8                       | 3.3          | 44  | 1.7            | 2.7            | 3.1          |     |
| 20               | 1.7          | 2.6                       | 3.1          | 45  | 1.8            | 2.8            | 3.3          |     |
| 21               | 1.9          | 2.8                       | 3.2          | 46  | 1.7            | 2.6            | 3.1          |     |
| 22               | 1.8          | 2.8                       | 3.2          | 47  | 1.6            | 2.5            | 2.9          |     |
| 23               | 1.9          | 2.9                       | 3.4          | 48  | 1.9            | 2.7            | 3.2          |     |
| 24               | 1.7          | 2.9                       | 3.6          | 49  | 1.8            | 2.7            | 3.1          |     |
| 25               | 1.6          | 2.5                       | 3.2          | 50  | 1.7            | 2.7            | 3.3          |     |
|                  |              |                           |              |     | TAU-DEE ONLY   | 0.4            | 1.5          | 0.0 |
|                  |              |                           |              |     | TAU-DELTA ONLY | 1.7            | 2.6          | 3.1 |
|                  |              |                           |              |     | TOTAL          | 1.4            | 2.5          | 3.3 |

TABLE 4 (CONTINUED)

| RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES       |              |                           |              |     |                |                |              |     |
|--|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|-----|
| (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS) |              |                           |              |     |                |                |              |     |
| (ALL RATES IN RESPONSES-PER-SECOND)                |              |                           |              |     |                |                |              |     |
| GROUP C  | RAT(S)       | 2                         | 10           | 11  | 16             | 18             | POINT 3      |     |
| CYCLE LENGTH= 50                                   |              | CLASS INTERVAL WIDTH= 1.0 |              |     |                | SCHEDULE 0     |              |     |
| INT  | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1  | 0.8          | 2.6                       | 2.6          | 26  | 0.9            | 0.9            | 0.9          |     |
| 2  | 0.1          | 1.1                       | 1.2          | 27  | 1.0            | 1.0            | 1.1          |     |
| 3  | 0.4          | 1.0                       | 0.0          | 28  | 1.1            | 1.1            | 1.2          |     |
| 4  | 0.4          | 1.8                       | 0.0          | 29  | 1.2            | 1.2            | 1.2          |     |
| 5  | 0.3          | 2.0                       | 0.0          | 30  | 1.2            | 1.2            | 1.3          |     |
| 6  | 0.4          | 1.4                       | 0.0          | 31  | 1.4            | 1.4            | 1.5          |     |
| 7  | 0.4          | 2.0                       | 0.0          | 32  | 1.5            | 1.5            | 1.5          |     |
| 8  | 0.4          | 2.2                       | 0.0          | 33  | 1.6            | 1.6            | 1.6          |     |
| 9  | 0.4          | 1.5                       | 0.0          | 34  | 1.7            | 1.7            | 1.8          |     |
| 10   | 0.5          | 2.5                       | 0.0          | 35  | 1.8            | 1.8            | 1.8          |     |
| -----  |              |                           |              |     |                |                |              |     |
| 11   | 0.3          | 1.0                       | 2.0          | 36  | 1.7            | 1.7            | 1.7          |     |
| 12   | 0.6          | 0.8                       | 1.3          | 37  | 1.7            | 1.7            | 1.8          |     |
| 13   | 0.7          | 0.7                       | 0.9          | 38  | 2.0            | 2.0            | 2.0          |     |
| 14   | 0.7          | 0.7                       | 0.8          | 39  | 2.0            | 2.0            | 2.0          |     |
| 15   | 0.5          | 0.5                       | 0.5          | 40  | 2.2            | 2.2            | 2.2          |     |
| 16   | 0.4          | 0.4                       | 0.4          | 41  | 2.2            | 2.2            | 2.2          |     |
| 17   | 0.5          | 0.5                       | 0.5          | 42  | 2.1            | 2.1            | 2.1          |     |
| 18   | 0.5          | 0.5                       | 0.5          | 43  | 2.1            | 2.1            | 2.1          |     |
| 19   | 0.5          | 0.5                       | 0.6          | 44  | 2.3            | 2.3            | 2.3          |     |
| 20   | 0.5          | 0.5                       | 0.5          | 45  | 2.4            | 2.4            | 2.4          |     |
| 21   | 0.6          | 0.6                       | 0.6          | 46  | 2.2            | 2.2            | 2.2          |     |
| 22   | 0.6          | 0.6                       | 0.7          | 47  | 2.4            | 2.4            | 2.4          |     |
| 23   | 0.7          | 0.7                       | 0.7          | 48  | 2.3            | 2.3            | 2.3          |     |
| 24   | 0.8          | 0.8                       | 0.8          | 49  | 2.5            | 2.5            | 2.5          |     |
| 25   | 0.9          | 0.9                       | 0.9          | 50  | 2.4            | 2.4            | 2.4          |     |
|  |              |                           |              |     | TAU-DEE ONLY   | 0.4            | 1.8          | 8.2 |
|  |              |                           |              |     | TAU-DELTA ONLY | 1.4            | 1.4          | 1.5 |
|  |              |                           |              |     | TOTAL          | 1.2            | 1.4          | 1.5 |

TABLE 4 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP C          | RAT(S)       | 2                         | 10           | 11  | 16             | 18             | POINT 3      |     |
|------------------|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|-----|
| CYCLE LENGTH= 50 |              | CLASS INTERVAL WIDTH= 1.0 |              |     |                | SCHEDULE 1     |              |     |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 0.8          | 2.6                       | 2.8          | 26  | 1.8            | 1.8            | 1.9          |     |
| 2                | 0.1          | 2.4                       | 3.6          | 27  | 2.0            | 2.0            | 2.0          |     |
| 3                | 0.5          | 1.2                       | 0.0          | 28  | 1.9            | 2.0            | 2.0          |     |
| 4                | 0.4          | 2.1                       | 0.0          | 29  | 2.0            | 2.0            | 2.0          |     |
| 5                | 0.3          | 2.4                       | 0.0          | 30  | 2.0            | 2.1            | 2.1          |     |
| 6                | 0.4          | 1.6                       | 0.0          | 31  | 2.1            | 2.1            | 2.2          |     |
| 7                | 0.3          | 1.9                       | 0.0          | 32  | 1.9            | 2.0            | 2.0          |     |
| 8                | 0.5          | 2.5                       | 0.0          | 33  | 2.0            | 2.2            | 2.2          |     |
| 9                | 0.3          | 1.4                       | 0.0          | 34  | 2.1            | 2.2            | 2.3          |     |
| 10               | 0.5          | 2.3                       | 0.0          | 35  | 2.3            | 2.4            | 2.4          |     |
| -----            |              |                           |              |     |                |                |              |     |
| 11               | 0.4          | 1.2                       | 2.4          | 36  | 2.4            | 2.5            | 2.6          |     |
| 12               | 0.7          | 1.0                       | 1.6          | 37  | 2.2            | 2.4            | 2.4          |     |
| 13               | 1.2          | 1.2                       | 1.5          | 38  | 2.4            | 2.5            | 2.5          |     |
| 14               | 1.5          | 1.5                       | 1.6          | 39  | 2.5            | 2.6            | 2.7          |     |
| 15               | 1.7          | 1.7                       | 1.7          | 40  | 2.5            | 2.5            | 2.6          |     |
| 16               | 1.8          | 1.9                       | 1.9          | 41  | 2.4            | 2.5            | 2.5          |     |
| 17               | 1.8          | 1.9                       | 1.9          | 42  | 2.5            | 2.6            | 2.6          |     |
| 18               | 1.7          | 1.7                       | 1.8          | 43  | 2.4            | 2.6            | 2.6          |     |
| 19               | 1.6          | 1.7                       | 1.7          | 44  | 2.5            | 2.6            | 2.7          |     |
| 20               | 1.7          | 1.7                       | 1.8          | 45  | 2.5            | 2.6            | 2.6          |     |
| 21               | 1.8          | 1.9                       | 1.9          | 46  | 2.6            | 2.7            | 2.7          |     |
| 22               | 1.8          | 1.9                       | 1.9          | 47  | 2.5            | 2.6            | 2.6          |     |
| 23               | 1.8          | 1.9                       | 1.9          | 48  | 2.5            | 2.7            | 2.7          |     |
| 24               | 1.7          | 1.8                       | 1.8          | 49  | 2.5            | 2.7            | 2.7          |     |
| 25               | 1.8          | 1.8                       | 1.9          | 50  | 2.7            | 2.8            | 2.9          |     |
|                  |              |                           |              |     | TAU-DEE ONLY   | 0.4            | 2.0          | 0.0 |
|                  |              |                           |              |     | TAU-DELTA ONLY | 2.0            | 2.1          | 2.2 |
|                  |              |                           |              |     | TOTAL          | 1.7            | 2.1          | 2.3 |

TABLE 4 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
(CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
(ALL RATES IN RESPONSES-PER-SECOND)

GROUP C      RAT(S)    2 10 11 16 18                      POINT 3  
CYCLE LENGTH= 50      CLASS INTERVAL WIDTH= 1.0      SCHEDULE 2

| OVERALL CORRECTED RUNNING |      |      |      | OVERALL CORRECTED RUNNING |                |      |      |     |
|---------------------------|------|------|------|---------------------------|----------------|------|------|-----|
| INT                       | RATE | RATE | RATE | INT                       | RATE           | RATE | RATE |     |
| 1                         | 0.7  | 2.5  | 3.4  | 26                        | 1.8            | 2.8  | 3.2  |     |
| 2                         | 0.1  | 1.4  | 4.6  | 27                        | 1.8            | 2.9  | 3.4  |     |
| 3                         | 0.6  | 1.8  | 0.0  | 28                        | 1.8            | 2.9  | 3.4  |     |
| 4                         | 0.3  | 2.5  | 0.0  | 29                        | 1.8            | 2.7  | 3.2  |     |
| 5                         | 0.4  | 2.2  | 0.0  | 30                        | 2.0            | 2.9  | 3.3  |     |
| 6                         | 0.4  | 1.8  | 0.0  | 31                        | 1.8            | 3.0  | 3.4  |     |
| 7                         | 0.3  | 2.0  | 0.0  | 32                        | 1.6            | 2.9  | 3.4  |     |
| 8                         | 0.4  | 2.1  | 0.0  | 33                        | 1.7            | 2.7  | 3.3  |     |
| 9                         | 0.3  | 1.8  | 0.0  | 34                        | 1.7            | 2.6  | 3.1  |     |
| 10                        | 0.4  | 1.9  | 0.0  | 35                        | 1.8            | 2.9  | 3.4  |     |
| -----                     |      |      |      |                           |                |      |      |     |
| 11                        | 0.4  | 1.2  | 2.9  | 36                        | 1.7            | 2.7  | 3.1  |     |
| 12                        | 1.1  | 1.6  | 2.2  | 37                        | 1.8            | 2.7  | 3.3  |     |
| 13                        | 1.4  | 1.8  | 2.1  | 38                        | 1.8            | 2.8  | 3.2  |     |
| 14                        | 1.6  | 2.3  | 2.5  | 39                        | 2.0            | 2.9  | 3.3  |     |
| 15                        | 1.6  | 2.4  | 2.7  | 40                        | 1.8            | 2.8  | 3.2  |     |
| 16                        | 1.6  | 2.5  | 2.9  | 41                        | 1.6            | 2.7  | 3.1  |     |
| 17                        | 1.7  | 2.5  | 3.0  | 42                        | 1.7            | 2.7  | 3.2  |     |
| 18                        | 1.7  | 2.6  | 3.0  | 43                        | 1.7            | 2.5  | 2.9  |     |
| 19                        | 1.8  | 2.8  | 3.3  | 44                        | 1.8            | 2.7  | 3.1  |     |
| 20                        | 1.7  | 2.5  | 3.0  | 45                        | 1.8            | 2.8  | 3.2  |     |
| 21                        | 2.0  | 2.8  | 3.2  | 46                        | 1.7            | 2.7  | 3.1  |     |
| 22                        | 1.8  | 2.7  | 3.0  | 47                        | 1.6            | 2.6  | 3.0  |     |
| 23                        | 1.7  | 2.6  | 3.0  | 48                        | 1.8            | 2.7  | 3.1  |     |
| 24                        | 1.8  | 2.8  | 3.3  | 49                        | 1.7            | 2.6  | 3.0  |     |
| 25                        | 1.7  | 2.7  | 3.1  | 50                        | 1.9            | 2.9  | 3.3  |     |
|                           |      |      |      |                           | TAU-DEE ONLY   | 0.4  | 2.0  | 0.0 |
|                           |      |      |      |                           | TAU-DELTA ONLY | 1.7  | 2.6  | 3.1 |
|                           |      |      |      |                           | TOTAL          | 1.4  | 2.6  | 3.2 |

TABLE 4 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP C          |         | RAT(S)                    |         |     | POINT 4        |           |            |     |
|------------------|---------|---------------------------|---------|-----|----------------|-----------|------------|-----|
| CYCLE LENGTH= 10 |         | 2                         | 10      | 11  | 16             | 18        | SCHEDULE 0 |     |
|                  |         | CLASS INTERVAL WIDTH= 0.2 |         |     |                |           |            |     |
|                  | OVERALL | CORRECTED                 | RUNNING |     | OVERALL        | CORRECTED | RUNNING    |     |
| INT              | RATE    | RATE                      | RATE    | INT | RATE           | RATE      | RATE       |     |
| 1                | 1.8     | 2.7                       | 2.9     | 26  | 1.7            | 1.7       | 1.9        |     |
| 2                | 1.3     | 3.7                       | 4.2     | 27  | 1.8            | 1.8       | 2.0        |     |
| 3                | 0.4     | 2.0                       | 2.4     | 28  | 2.0            | 2.0       | 2.2        |     |
| 4                | 0.2     | 1.2                       | 1.5     | 29  | 2.0            | 2.0       | 2.2        |     |
| 5                | 0.1     | 1.0                       | 1.4     | 30  | 2.0            | 2.0       | 2.2        |     |
| 6                | 0.1     | 0.6                       | 0.9     | 31  | 2.1            | 2.1       | 2.3        |     |
| 7                | 0.1     | 0.5                       | 0.8     | 32  | 2.2            | 2.2       | 2.3        |     |
| 8                | 0.0     | 0.3                       | 0.4     | 33  | 2.1            | 2.1       | 2.3        |     |
| 9                | 0.0     | 0.4                       | 0.6     | 34  | 2.3            | 2.3       | 2.5        |     |
| 10               | 0.0     | 0.2                       | 0.3     | 35  | 2.4            | 2.4       | 2.6        |     |
| -----            |         |                           |         |     |                |           |            |     |
| 11               | 0.2     | 0.8                       | 3.3     | 36  | 2.3            | 2.3       | 2.5        |     |
| 12               | 0.3     | 0.5                       | 3.1     | 37  | 2.3            | 2.3       | 2.5        |     |
| 13               | 0.2     | 0.2                       | 1.3     | 38  | 2.3            | 2.3       | 2.4        |     |
| 14               | 0.4     | 0.5                       | 2.0     | 39  | 2.4            | 2.4       | 2.6        |     |
| 15               | 0.8     | 0.9                       | 2.6     | 40  | 2.4            | 2.4       | 2.5        |     |
| 16               | 1.0     | 1.1                       | 2.4     | 41  | 2.4            | 2.4       | 2.6        |     |
| 17               | 1.2     | 1.3                       | 2.4     | 42  | 2.5            | 2.5       | 2.6        |     |
| 18               | 1.3     | 1.4                       | 2.2     | 43  | 2.5            | 2.5       | 2.6        |     |
| 19               | 1.4     | 1.4                       | 2.1     | 44  | 2.6            | 2.6       | 2.7        |     |
| 20               | 1.5     | 1.5                       | 2.0     | 45  | 2.6            | 2.6       | 2.8        |     |
| 21               | 1.5     | 1.6                       | 2.1     | 46  | 2.7            | 2.7       | 2.9        |     |
| 22               | 1.6     | 1.6                       | 2.1     | 47  | 2.6            | 2.6       | 2.7        |     |
| 23               | 1.7     | 1.7                       | 2.0     | 48  | 2.7            | 2.7       | 2.8        |     |
| 24               | 1.7     | 1.7                       | 2.0     | 49  | 2.7            | 2.7       | 2.9        |     |
| 25               | 1.8     | 1.8                       | 2.1     | 50  | 3.3            | 3.3       | 3.5        |     |
|                  |         |                           |         |     | TAU-DEE ONLY   | 0.4       | 2.0        | 2.5 |
|                  |         |                           |         |     | TAU-DELTA ONLY | 1.9       | 2.0        | 2.4 |
|                  |         |                           |         |     | TOTAL          | 1.6       | 2.0        | 2.4 |

TABLE 4 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP C          | RAT(S)       | 2                         | 10           | 11  | 16             | 18             | POINT 4      |     |
|------------------|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|-----|
| CYCLE LENGTH= 10 |              | CLASS INTERVAL WIDTH= 0.2 |              |     |                |                | SCHEDULE 1   |     |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 1.8          | 2.9                       | 3.0          | 26  | 2.8            | 2.9            | 3.0          |     |
| 2                | 1.2          | 3.7                       | 4.1          | 27  | 2.7            | 2.8            | 2.9          |     |
| 3                | 0.5          | 2.6                       | 3.0          | 28  | 2.8            | 3.0            | 3.1          |     |
| 4                | 0.3          | 2.0                       | 2.6          | 29  | 2.6            | 2.7            | 2.9          |     |
| 5                | 0.1          | 1.3                       | 1.7          | 30  | 2.8            | 2.9            | 3.0          |     |
| 6                | 0.1          | 1.4                       | 2.1          | 31  | 2.6            | 2.7            | 2.8          |     |
| 7                | 0.1          | 1.0                       | 1.5          | 32  | 2.7            | 2.8            | 2.9          |     |
| 8                | 0.0          | 0.7                       | 1.2          | 33  | 2.5            | 2.7            | 2.8          |     |
| 9                | 0.0          | 0.5                       | 0.9          | 34  | 2.6            | 2.7            | 2.8          |     |
| 10               | 0.0          | 0.7                       | 1.2          | 35  | 2.7            | 2.8            | 2.9          |     |
| -----            |              |                           |              |     |                |                |              |     |
| 11               | 0.3          | 0.9                       | 5.5          | 36  | 2.6            | 2.7            | 2.8          |     |
| 12               | 0.4          | 0.6                       | 4.0          | 37  | 2.8            | 2.9            | 3.0          |     |
| 13               | 0.5          | 0.7                       | 2.9          | 38  | 2.6            | 2.8            | 2.9          |     |
| 14               | 0.9          | 1.0                       | 2.8          | 39  | 2.7            | 2.9            | 3.0          |     |
| 15               | 1.4          | 1.6                       | 3.1          | 40  | 2.7            | 2.9            | 3.0          |     |
| 16               | 1.8          | 2.0                       | 3.1          | 41  | 2.8            | 2.9            | 3.0          |     |
| 17               | 1.9          | 2.0                       | 2.9          | 42  | 2.8            | 2.9            | 3.0          |     |
| 18               | 2.2          | 2.4                       | 3.1          | 43  | 2.8            | 2.9            | 3.0          |     |
| 19               | 2.3          | 2.5                       | 3.1          | 44  | 2.8            | 2.9            | 3.0          |     |
| 20               | 2.6          | 2.8                       | 3.2          | 45  | 2.8            | 3.0            | 3.1          |     |
| 21               | 2.5          | 2.7                       | 3.0          | 46  | 2.8            | 3.0            | 3.1          |     |
| 22               | 2.6          | 2.7                       | 3.1          | 47  | 2.8            | 2.9            | 3.0          |     |
| 23               | 2.8          | 2.9                       | 3.2          | 48  | 2.8            | 2.9            | 3.0          |     |
| 24               | 2.7          | 2.8                       | 3.0          | 49  | 2.8            | 3.0            | 3.1          |     |
| 25               | 2.7          | 2.8                       | 3.0          | 50  | 3.4            | 3.6            | 3.8          |     |
|                  |              |                           |              |     | TAU-DEE ONLY   | 0.4            | 2.4          | 2.9 |
|                  |              |                           |              |     | TAU-DELTA ONLY | 2.4            | 2.6          | 3.0 |
|                  |              |                           |              |     | TOTAL          | 2.0            | 2.6          | 3.0 |

TABLE 4 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP C                   |      | RAT(S) 2 10 11 16 18      |      |                           | POINT 4    |      |      |
|---------------------------|------|---------------------------|------|---------------------------|------------|------|------|
| CYCLE LENGTH= 10          |      | CLASS INTERVAL WIDTH= 0.2 |      |                           | SCHEDULE 2 |      |      |
| OVERALL CORRECTED RUNNING |      |                           |      | OVERALL CORRECTED RUNNING |            |      |      |
| INT                       | RATE | RATE                      | RATE | INT                       | RATE       | RATE | RATE |
| 1                         | 1.2  | 2.4                       | 3.1  | 26                        | 1.8        | 2.8  | 3.2  |
| 2                         | 0.9  | 3.0                       | 4.4  | 27                        | 1.8        | 2.7  | 3.1  |
| 3                         | 0.5  | 2.5                       | 4.5  | 28                        | 1.7        | 2.6  | 3.1  |
| 4                         | 0.4  | 2.3                       | 5.4  | 29                        | 1.8        | 2.8  | 3.2  |
| 5                         | 0.3  | 2.0                       | 6.5  | 30                        | 1.7        | 2.7  | 3.2  |
| 6                         | 0.2  | 2.1                       | 8.9  | 31                        | 1.8        | 2.8  | 3.2  |
| 7                         | 0.2  | 1.9                       | 9.5  | 32                        | 1.7        | 2.6  | 3.1  |
| 8                         | 0.2  | 1.5                       | 0.0  | 33                        | 1.7        | 2.7  | 3.2  |
| 9                         | 0.1  | 1.4                       | 0.0  | 34                        | 1.6        | 2.5  | 3.0  |
| 10                        | 0.1  | 1.4                       | 0.0  | 35                        | 1.7        | 2.6  | 3.1  |
| -----                     |      |                           |      |                           |            |      |      |
| 11                        | 0.3  | 1.3                       | 10.0 | 36                        | 1.6        | 2.4  | 2.9  |
| 12                        | 0.5  | 1.1                       | 5.2  | 37                        | 1.7        | 2.5  | 3.0  |
| 13                        | 0.7  | 1.2                       | 3.7  | 38                        | 1.7        | 2.5  | 3.0  |
| 14                        | 0.9  | 1.3                       | 3.1  | 39                        | 1.4        | 2.2  | 2.6  |
| 15                        | 1.1  | 1.6                       | 3.0  | 40                        | 1.7        | 2.5  | 3.0  |
| 16                        | 1.3  | 1.9                       | 3.0  | 41                        | 1.6        | 2.5  | 2.9  |
| 17                        | 1.3  | 1.8                       | 2.7  | 42                        | 1.6        | 2.3  | 2.8  |
| 18                        | 1.5  | 2.1                       | 2.8  | 43                        | 1.7        | 2.5  | 3.0  |
| 19                        | 1.5  | 2.0                       | 2.6  | 44                        | 1.6        | 2.5  | 2.9  |
| 20                        | 1.7  | 2.2                       | 2.7  | 45                        | 1.6        | 2.5  | 2.9  |
| 21                        | 1.8  | 2.4                       | 2.8  | 46                        | 1.5        | 2.3  | 2.7  |
| 22                        | 1.7  | 2.4                       | 2.8  | 47                        | 1.6        | 2.5  | 2.9  |
| 23                        | 1.8  | 2.5                       | 2.8  | 48                        | 1.8        | 2.7  | 3.1  |
| 24                        | 1.8  | 2.7                       | 3.0  | 49                        | 1.7        | 2.6  | 3.0  |
| 25                        | 1.8  | 2.7                       | 3.0  | 50                        | 2.1        | 3.1  | 3.7  |
| TAU-DEE ONLY              |      |                           |      |                           | 0.4        | 2.4  | 4.8  |
| TAU-DELTA ONLY            |      |                           |      |                           | 1.5        | 2.4  | 3.0  |
| TOTAL                     |      |                           |      |                           | 1.3        | 2.4  | 3.1  |

TABLE 4 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP C          | RAT(S)       | 2                         | 10           | 11  | 16             | 18             | POINT 5      |     |
|------------------|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|-----|
| CYCLE LENGTH=100 |              | CLASS INTERVAL WIDTH= 2.0 |              |     |                | SCHEDULE G     |              |     |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 0.4          | 1.0                       | 1.0          | 26  | 0.6            | 0.6            | 0.7          |     |
| 2                | 0.4          | 0.9                       | 1.6          | 27  | 0.6            | 0.6            | 0.6          |     |
| 3                | 0.3          | 1.0                       | 1.6          | 28  | 0.8            | 0.8            | 0.8          |     |
| 4                | 0.3          | 1.0                       | 1.6          | 29  | 0.8            | 0.8            | 0.8          |     |
| 5                | 0.3          | 1.0                       | 1.5          | 30  | 1.0            | 1.0            | 1.0          |     |
| 6                | 0.3          | 1.0                       | 1.6          | 31  | 1.1            | 1.1            | 1.1          |     |
| 7                | 0.3          | 1.0                       | 1.6          | 32  | 1.1            | 1.1            | 1.1          |     |
| 8                | 0.3          | 1.0                       | 1.6          | 33  | 1.2            | 1.2            | 1.2          |     |
| 9                | 0.3          | 0.9                       | 1.4          | 34  | 1.3            | 1.3            | 1.3          |     |
| 10               | 0.3          | 1.0                       | 1.6          | 35  | 1.3            | 1.3            | 1.4          |     |
| -----            |              |                           |              |     |                |                |              |     |
| 11               | 0.5          | 0.8                       | 1.0          | 36  | 1.5            | 1.5            | 1.5          |     |
| 12               | 0.5          | 0.5                       | 0.5          | 37  | 1.6            | 1.6            | 1.6          |     |
| 13               | 0.3          | 0.3                       | 0.3          | 38  | 1.7            | 1.7            | 1.7          |     |
| 14               | 0.3          | 0.3                       | 0.3          | 39  | 1.7            | 1.7            | 1.7          |     |
| 15               | 0.3          | 0.3                       | 0.3          | 40  | 1.7            | 1.7            | 1.8          |     |
| 16               | 0.2          | 0.2                       | 0.2          | 41  | 1.9            | 1.9            | 1.9          |     |
| 17               | 0.1          | 0.1                       | 0.1          | 42  | 1.8            | 1.8            | 1.8          |     |
| 18               | 0.2          | 0.2                       | 0.2          | 43  | 1.9            | 1.9            | 1.9          |     |
| 19               | 0.3          | 0.3                       | 0.3          | 44  | 2.0            | 2.0            | 2.0          |     |
| 20               | 0.2          | 0.2                       | 0.2          | 45  | 2.1            | 2.1            | 2.1          |     |
| 21               | 0.3          | 0.3                       | 0.3          | 46  | 2.1            | 2.1            | 2.1          |     |
| 22               | 0.3          | 0.3                       | 0.3          | 47  | 2.1            | 2.1            | 2.1          |     |
| 23               | 0.4          | 0.4                       | 0.4          | 48  | 2.2            | 2.2            | 2.2          |     |
| 24               | 0.5          | 0.5                       | 0.5          | 49  | 2.3            | 2.3            | 2.3          |     |
| 25               | 0.5          | 0.5                       | 0.5          | 50  | 2.3            | 2.3            | 2.3          |     |
|                  |              |                           |              |     | TAU-DEE ONLY   | 0.3            | 1.0          | 1.5 |
|                  |              |                           |              |     | TAU-DELTA ONLY | 1.1            | 1.1          | 1.1 |
|                  |              |                           |              |     | TOTAL          | 0.9            | 1.1          | 1.1 |

TABLE 4 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
(CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
(ALL RATES IN RESPONSES-PER-SECOND)

| GROUP C          | RAT(S)       | 2                         | 10           | 11  | 16             | 18             | POINT 5      |     |
|------------------|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|-----|
| CYCLE LENGTH=100 |              | CLASS INTERVAL WIDTH= 2.0 |              |     |                | SCHEDULE 1     |              |     |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 0.4          | 1.0                       | 1.1          | 26  | 1.5            | 1.5            | 1.5          |     |
| 2                | 0.4          | 1.0                       | 1.7          | 27  | 1.5            | 1.5            | 1.6          |     |
| 3                | 0.4          | 1.0                       | 1.7          | 28  | 1.5            | 1.6            | 1.6          |     |
| 4                | 0.3          | 0.9                       | 1.5          | 29  | 1.7            | 1.7            | 1.8          |     |
| 5                | 0.4          | 1.1                       | 1.7          | 30  | 1.7            | 1.8            | 1.8          |     |
| 6                | 0.4          | 1.1                       | 1.8          | 31  | 1.7            | 1.8            | 1.8          |     |
| 7                | 0.3          | 1.1                       | 1.7          | 32  | 1.8            | 1.9            | 1.9          |     |
| 8                | 0.3          | 1.0                       | 1.7          | 33  | 1.7            | 1.8            | 1.8          |     |
| 9                | 0.3          | 1.0                       | 1.6          | 34  | 1.8            | 1.9            | 2.0          |     |
| 10               | 0.3          | 1.1                       | 1.7          | 35  | 1.8            | 1.9            | 2.0          |     |
| -----            |              |                           |              |     |                |                |              |     |
| 11               | 0.5          | 0.8                       | 1.0          | 36  | 2.0            | 2.1            | 2.1          |     |
| 12               | 0.7          | 0.7                       | 0.7          | 37  | 2.3            | 2.3            | 2.3          |     |
| 13               | 1.0          | 1.0                       | 1.0          | 38  | 2.3            | 2.4            | 2.4          |     |
| 14               | 1.1          | 1.1                       | 1.1          | 39  | 2.3            | 2.4            | 2.4          |     |
| 15               | 0.8          | 0.9                       | 0.9          | 40  | 2.1            | 2.2            | 2.2          |     |
| 16               | 0.8          | 0.9                       | 0.9          | 41  | 2.3            | 2.4            | 2.4          |     |
| 17               | 1.0          | 1.0                       | 1.0          | 42  | 2.4            | 2.5            | 2.5          |     |
| 18               | 1.1          | 1.1                       | 1.1          | 43  | 2.1            | 2.3            | 2.3          |     |
| 19               | 1.1          | 1.2                       | 1.2          | 44  | 2.1            | 2.1            | 2.2          |     |
| 20               | 1.2          | 1.3                       | 1.3          | 45  | 2.4            | 2.4            | 2.5          |     |
| 21               | 1.1          | 1.1                       | 1.1          | 46  | 2.4            | 2.6            | 2.6          |     |
| 22               | 1.1          | 1.2                       | 1.2          | 47  | 2.1            | 2.3            | 2.4          |     |
| 23               | 1.2          | 1.3                       | 1.3          | 48  | 2.1            | 2.2            | 2.3          |     |
| 24               | 1.4          | 1.4                       | 1.4          | 49  | 2.1            | 2.2            | 2.2          |     |
| 25               | 1.5          | 1.5                       | 1.6          | 50  | 2.3            | 2.4            | 2.4          |     |
|                  |              |                           |              |     | TAU-DEE ONLY   | 0.3            | 1.0          | 1.6 |
|                  |              |                           |              |     | TAU-DELTA ONLY | 1.6            | 1.7          | 1.7 |
|                  |              |                           |              |     | TOTAL          | 1.4            | 1.7          | 1.7 |

TABLE 4 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
(CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
(ALL RATES IN RESPONSES-PER-SECOND)

GROUP C      RAT(S)    2 10 11 16 18                      POINT 5  
CYCLE LENGTH=100      CLASS INTERVAL WIDTH= 2.0      SCHEDULE 2

| OVERALL CORRECTED RUNNING |      |      |      | OVERALL CORRECTED RUNNING |                |      |      |     |
|---------------------------|------|------|------|---------------------------|----------------|------|------|-----|
| INT                       | RATE | RATE | RATE | INT                       | RATE           | RATE | RATE |     |
| 1                         | 0.4  | 1.1  | 1.3  | 26                        | 1.3            | 1.9  | 2.1  |     |
| 2                         | 0.4  | 1.1  | 1.8  | 27                        | 1.7            | 2.2  | 2.5  |     |
| 3                         | 0.3  | 1.0  | 1.7  | 28                        | 1.6            | 2.2  | 2.5  |     |
| 4                         | 0.3  | 1.0  | 1.6  | 29                        | 1.5            | 2.1  | 2.3  |     |
| 5                         | 0.3  | 1.0  | 1.7  | 30                        | 1.5            | 2.1  | 2.3  |     |
| 6                         | 0.3  | 1.0  | 1.7  | 31                        | 1.5            | 2.1  | 2.3  |     |
| 7                         | 0.3  | 1.0  | 1.6  | 32                        | 1.7            | 2.3  | 2.4  |     |
| 8                         | 0.3  | 1.0  | 1.6  | 33                        | 1.4            | 2.0  | 2.3  |     |
| 9                         | 0.3  | 1.1  | 1.7  | 34                        | 1.5            | 2.1  | 2.2  |     |
| 10                        | 0.3  | 1.0  | 1.7  | 35                        | 1.5            | 2.1  | 2.4  |     |
| -----                     |      |      |      |                           |                |      |      |     |
| 11                        | 0.5  | 0.9  | 1.2  | 36                        | 1.4            | 2.0  | 2.2  |     |
| 12                        | 0.9  | 1.1  | 1.1  | 37                        | 1.3            | 1.9  | 2.1  |     |
| 13                        | 1.0  | 1.3  | 1.3  | 38                        | 1.3            | 1.9  | 2.1  |     |
| 14                        | 1.4  | 1.8  | 1.8  | 39                        | 1.4            | 1.9  | 2.0  |     |
| 15                        | 1.3  | 1.7  | 1.8  | 40                        | 1.4            | 2.0  | 2.2  |     |
| 16                        | 1.4  | 1.8  | 2.0  | 41                        | 1.4            | 1.9  | 2.1  |     |
| 17                        | 1.4  | 1.9  | 2.1  | 42                        | 1.5            | 2.0  | 2.2  |     |
| 18                        | 1.3  | 1.9  | 2.0  | 43                        | 1.4            | 2.0  | 2.2  |     |
| 19                        | 1.4  | 2.0  | 2.2  | 44                        | 1.5            | 2.0  | 2.2  |     |
| 20                        | 1.4  | 1.9  | 2.2  | 45                        | 1.3            | 1.9  | 2.1  |     |
| 21                        | 1.6  | 2.1  | 2.3  | 46                        | 1.6            | 2.1  | 2.3  |     |
| 22                        | 1.4  | 2.0  | 2.2  | 47                        | 1.6            | 2.2  | 2.4  |     |
| 23                        | 1.5  | 2.0  | 2.2  | 48                        | 1.5            | 2.1  | 2.2  |     |
| 24                        | 1.4  | 2.0  | 2.3  | 49                        | 1.5            | 2.1  | 2.3  |     |
| 25                        | 1.5  | 2.1  | 2.3  | 50                        | 1.5            | 2.1  | 2.2  |     |
|                           |      |      |      |                           | TAU-DEE ONLY   | 0.3  | 1.0  | 1.6 |
|                           |      |      |      |                           | TAU-DELTA ONLY | 1.4  | 1.9  | 2.1 |
|                           |      |      |      |                           | TOTAL          | 1.2  | 1.8  | 2.1 |

TABLE 5

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP D          | RAT(S)       | 4                         | 5            | 8   | 12           | 15             | POINT 1      |
|------------------|--------------|---------------------------|--------------|-----|--------------|----------------|--------------|
| CYCLE LENGTH=500 |              | CLASS INTERVAL WIDTH=10.0 |              |     |              |                | SCHEDULE 0   |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE | CORRECTED RATE | RUNNING RATE |
| 1                | 0.3          | 0.9                       | 2.1          | 26  | 0.2          | 0.2            | 0.2          |
| 2                | 0.4          | 2.0                       | 0.0          | 27  | 0.2          | 0.2            | 0.2          |
| 3                | 0.4          | 1.7                       | 0.0          | 28  | 0.1          | 0.1            | 0.1          |
| 4                | 0.4          | 2.1                       | 0.0          | 29  | 0.1          | 0.1            | 0.1          |
| 5                | 0.4          | 2.2                       | 0.0          | 30  | 0.1          | 0.1            | 0.1          |
| 6                | 0.4          | 2.2                       | 0.0          | 31  | 0.1          | 0.1            | 0.1          |
| 7                | 0.4          | 2.2                       | 0.0          | 32  | 0.1          | 0.1            | 0.1          |
| 8                | 0.4          | 1.9                       | 0.0          | 33  | 0.1          | 0.1            | 0.1          |
| 9                | 0.4          | 2.0                       | 0.0          | 34  | 0.1          | 0.1            | 0.1          |
| 10               | 0.4          | 1.6                       | 0.0          | 35  | 0.1          | 0.1            | 0.1          |
| -----            |              |                           |              |     |              |                |              |
| 11               | 1.3          | 1.4                       | 1.5          | 36  | 0.1          | 0.1            | 0.1          |
| 12               | 0.7          | 0.7                       | 0.7          | 37  | 0.2          | 0.2            | 0.2          |
| 13               | 0.4          | 0.4                       | 0.4          | 38  | 0.1          | 0.1            | 0.1          |
| 14               | 0.4          | 0.4                       | 0.4          | 39  | 0.1          | 0.1            | 0.1          |
| 15               | 0.1          | 0.1                       | 0.1          | 40  | 0.1          | 0.1            | 0.1          |
| 16               | 0.1          | 0.1                       | 0.1          | 41  | 0.1          | 0.1            | 0.1          |
| 17               | 0.2          | 0.2                       | 0.2          | 42  | 0.1          | 0.1            | 0.1          |
| 18               | 0.2          | 0.2                       | 0.2          | 43  | 0.1          | 0.1            | 0.1          |
| 19               | 0.1          | 0.1                       | 0.1          | 44  | 0.2          | 0.2            | 0.2          |
| 20               | 0.2          | 0.2                       | 0.2          | 45  | 0.1          | 0.1            | 0.1          |
| 21               | 0.1          | 0.1                       | 0.1          | 46  | 0.2          | 0.2            | 0.2          |
| 22               | 0.1          | 0.1                       | 0.1          | 47  | 0.2          | 0.2            | 0.2          |
| 23               | 0.1          | 0.1                       | 0.1          | 48  | 0.1          | 0.1            | 0.1          |
| 24               | 0.1          | 0.1                       | 0.1          | 49  | 0.2          | 0.2            | 0.2          |
| 25               | 0.1          | 0.1                       | 0.1          | 50  | 0.2          | 0.2            | 0.2          |
| TAU-DEE ONLY     |              |                           |              |     | 0.4          | 1.8            | 0.0          |
| TAU-DELTA ONLY   |              |                           |              |     | 0.2          | 0.2            | 0.2          |
| TOTAL            |              |                           |              |     | 0.2          | 0.3            | 0.3          |

TABLE 5 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP D          | RAT(S)       | 4                         | 5            | 8   | 12             | 15             | POINT 1      |     |
|------------------|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|-----|
| CYCLE LENGTH=500 |              | CLASS INTERVAL WIDTH=10.0 |              |     |                |                | SCHEDULE 1   |     |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 0.4          | 1.4                       | 3.9          | 26  | 0.3            | 0.3            | 0.3          |     |
| 2                | 0.4          | 2.3                       | 0.0          | 27  | 0.2            | 0.2            | 0.2          |     |
| 3                | 0.4          | 2.1                       | 0.0          | 28  | 0.2            | 0.2            | 0.2          |     |
| 4                | 0.4          | 2.1                       | 0.0          | 29  | 0.1            | 0.1            | 0.1          |     |
| 5                | 0.4          | 2.0                       | 0.0          | 30  | 0.1            | 0.1            | 0.1          |     |
| 6                | 0.4          | 2.1                       | 0.0          | 31  | 0.2            | 0.2            | 0.2          |     |
| 7                | 0.4          | 2.0                       | 0.0          | 32  | 0.1            | 0.1            | 0.1          |     |
| 8                | 0.4          | 2.0                       | 0.0          | 33  | 0.2            | 0.2            | 0.2          |     |
| 9                | 0.4          | 2.1                       | 0.0          | 34  | 0.1            | 0.1            | 0.1          |     |
| 10               | 0.4          | 2.0                       | 0.0          | 35  | 0.2            | 0.2            | 0.2          |     |
| -----            |              |                           |              |     |                |                |              |     |
| 11               | 1.6          | 1.8                       | 1.9          | 36  | 0.1            | 0.1            | 0.1          |     |
| 12               | 1.1          | 1.2                       | 1.2          | 37  | 0.1            | 0.1            | 0.1          |     |
| 13               | 1.0          | 1.1                       | 1.1          | 38  | 0.2            | 0.2            | 0.2          |     |
| 14               | 0.9          | 1.0                       | 1.0          | 39  | 0.1            | 0.1            | 0.1          |     |
| 15               | 1.0          | 1.0                       | 1.0          | 40  | 0.2            | 0.2            | 0.2          |     |
| 16               | 1.0          | 1.1                       | 1.1          | 41  | 0.2            | 0.2            | 0.2          |     |
| 17               | 0.8          | 0.9                       | 0.9          | 42  | 0.2            | 0.2            | 0.2          |     |
| 18               | 0.8          | 0.8                       | 0.8          | 43  | 0.1            | 0.1            | 0.1          |     |
| 19               | 0.6          | 0.6                       | 0.6          | 44  | 0.2            | 0.2            | 0.2          |     |
| 20               | 0.6          | 0.6                       | 0.6          | 45  | 0.1            | 0.1            | 0.1          |     |
| 21               | 0.5          | 0.5                       | 0.5          | 46  | 0.1            | 0.1            | 0.1          |     |
| 22               | 0.5          | 0.5                       | 0.5          | 47  | 0.1            | 0.1            | 0.1          |     |
| 23               | 0.5          | 0.5                       | 0.5          | 48  | 0.1            | 0.1            | 0.1          |     |
| 24               | 0.4          | 0.4                       | 0.4          | 49  | 0.1            | 0.1            | 0.1          |     |
| 25               | 0.4          | 0.4                       | 0.4          | 50  | 0.1            | 0.1            | 0.1          |     |
|                  |              |                           |              |     | TAU-DEE ONLY   | 0.4            | 2.0          | 0.0 |
|                  |              |                           |              |     | TAU-DELTA ONLY | 0.4            | 0.4          | 0.4 |
|                  |              |                           |              |     | TOTAL          | 0.4            | 0.5          | 0.5 |

TABLE 5 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
(CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
(ALL RATES IN RESPONSES-PER-SECOND)

| GROUP D          |         | RAT(S) 4 5 8 12 15        |         |     | POINT 1        |           |         |     |
|------------------|---------|---------------------------|---------|-----|----------------|-----------|---------|-----|
| CYCLE LENGTH=500 |         | CLASS INTERVAL WIDTH=10.0 |         |     | SCHEDULE 2     |           |         |     |
|                  | OVERALL | CORRECTED                 | RUNNING |     | OVERALL        | CORRECTED | RUNNING |     |
| INT              | RATE    | RATE                      | RATE    | INT | RATE           | RATE      | RATE    |     |
| 1                | 0.3     | 0.8                       | 1.4     | 26  | 1.7            | 3.2       | 4.0     |     |
| 2                | 0.4     | 2.2                       | 0.0     | 27  | 1.9            | 3.2       | 3.8     |     |
| 3                | 0.4     | 2.6                       | 0.0     | 28  | 2.2            | 3.3       | 3.9     |     |
| 4                | 0.4     | 2.6                       | 0.0     | 29  | 2.1            | 3.3       | 3.8     |     |
| 5                | 0.4     | 2.6                       | 0.0     | 30  | 2.0            | 3.2       | 3.7     |     |
| 6                | 0.4     | 2.8                       | 0.0     | 31  | 1.8            | 3.3       | 4.0     |     |
| 7                | 0.4     | 2.8                       | 0.0     | 32  | 1.9            | 3.1       | 3.7     |     |
| 8                | 0.4     | 3.1                       | 0.0     | 33  | 1.8            | 3.0       | 3.7     |     |
| 9                | 0.4     | 2.2                       | 0.0     | 34  | 1.9            | 3.3       | 4.0     |     |
| 10               | 0.4     | 2.5                       | 0.0     | 35  | 2.0            | 3.2       | 3.8     |     |
| -----            |         |                           |         |     |                |           |         |     |
| 11               | 1.5     | 2.4                       | 2.7     | 36  | 2.0            | 3.3       | 3.9     |     |
| 12               | 2.0     | 3.2                       | 3.7     | 37  | 1.9            | 3.3       | 3.9     |     |
| 13               | 2.0     | 3.2                       | 3.8     | 38  | 1.9            | 3.0       | 3.5     |     |
| 14               | 2.1     | 3.3                       | 4.2     | 39  | 1.9            | 3.2       | 3.9     |     |
| 15               | 2.0     | 3.5                       | 4.3     | 40  | 2.1            | 3.2       | 3.7     |     |
| 16               | 2.0     | 3.5                       | 4.2     | 41  | 1.9            | 3.1       | 3.6     |     |
| 17               | 2.2     | 3.6                       | 4.1     | 42  | 2.0            | 3.2       | 3.9     |     |
| 18               | 2.0     | 3.3                       | 4.0     | 43  | 1.8            | 3.0       | 3.7     |     |
| 19               | 1.7     | 3.0                       | 3.8     | 44  | 1.9            | 3.0       | 3.4     |     |
| 20               | 2.0     | 3.4                       | 4.1     | 45  | 1.7            | 2.8       | 3.4     |     |
| 21               | 2.1     | 3.5                       | 4.2     | 46  | 1.9            | 3.0       | 3.6     |     |
| 22               | 2.2     | 3.4                       | 4.0     | 47  | 1.9            | 3.0       | 3.5     |     |
| 23               | 2.2     | 3.5                       | 4.0     | 48  | 1.8            | 3.1       | 3.7     |     |
| 24               | 2.0     | 3.4                       | 4.1     | 49  | 1.8            | 3.2       | 3.9     |     |
| 25               | 2.1     | 3.4                       | 4.0     | 50  | 1.7            | 3.0       | 3.7     |     |
|                  |         |                           |         |     | TAU-DEE ONLY   | 0.4       | 2.2     | 0.0 |
|                  |         |                           |         |     | TAU-DELTA ONLY | 1.9       | 3.2     | 3.8 |
|                  |         |                           |         |     | TOTAL          | 1.6       | 3.1     | 4.0 |

TABLE 5 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP D          | RAT(S)       | 4                         | 5            | 8   | 12             | 15             | POINT 2      |     |
|------------------|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|-----|
| CYCLE LENGTH=100 |              | CLASS INTERVAL WIDTH= 2.0 |              |     |                |                | SCHEDULE 0   |     |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 0.4          | 1.1                       | 1.1          | 26  | 1.0            | 1.0            | 1.0          |     |
| 2                | 0.4          | 1.2                       | 2.8          | 27  | 1.0            | 1.0            | 1.0          |     |
| 3                | 0.4          | 2.0                       | 5.0          | 28  | 1.0            | 1.0            | 1.0          |     |
| 4                | 0.4          | 2.0                       | 7.1          | 29  | 1.0            | 1.0            | 1.0          |     |
| 5                | 0.4          | 2.4                       | 7.7          | 30  | 1.1            | 1.1            | 1.1          |     |
| 6                | 0.4          | 1.9                       | 8.5          | 31  | 1.1            | 1.1            | 1.1          |     |
| 7                | 0.4          | 2.4                       | 0.0          | 32  | 1.2            | 1.2            | 1.2          |     |
| 8                | 0.4          | 2.1                       | 0.0          | 33  | 1.4            | 1.4            | 1.4          |     |
| 9                | 0.4          | 2.5                       | 9.9          | 34  | 1.4            | 1.4            | 1.4          |     |
| 10               | 0.4          | 1.9                       | 0.0          | 35  | 1.5            | 1.5            | 1.5          |     |
| -----            |              |                           |              |     |                |                |              |     |
| 11               | 0.7          | 1.2                       | 1.7          | 36  | 1.5            | 1.5            | 1.5          |     |
| 12               | 1.2          | 1.2                       | 1.3          | 37  | 1.6            | 1.6            | 1.6          |     |
| 13               | 1.2          | 1.2                       | 1.3          | 38  | 1.6            | 1.6            | 1.6          |     |
| 14               | 0.9          | 0.9                       | 0.9          | 39  | 1.5            | 1.5            | 1.5          |     |
| 15               | 0.9          | 0.9                       | 0.9          | 40  | 1.5            | 1.5            | 1.5          |     |
| 16               | 0.8          | 0.8                       | 0.8          | 41  | 1.8            | 1.8            | 1.8          |     |
| 17               | 0.7          | 0.7                       | 0.7          | 42  | 1.8            | 1.8            | 1.8          |     |
| 18               | 0.7          | 0.7                       | 0.7          | 43  | 1.8            | 1.8            | 1.8          |     |
| 19               | 0.7          | 0.7                       | 0.7          | 44  | 1.9            | 1.9            | 1.9          |     |
| 20               | 0.7          | 0.7                       | 0.7          | 45  | 1.8            | 1.8            | 1.8          |     |
| 21               | 0.7          | 0.7                       | 0.7          | 46  | 1.8            | 1.8            | 1.8          |     |
| 22               | 0.6          | 0.6                       | 0.6          | 47  | 1.9            | 1.9            | 1.9          |     |
| 23               | 0.7          | 0.7                       | 0.7          | 48  | 1.8            | 1.8            | 1.8          |     |
| 24               | 0.8          | 0.8                       | 0.8          | 49  | 1.9            | 1.9            | 1.9          |     |
| 25               | 0.9          | 0.9                       | 0.9          | 50  | 1.9            | 1.9            | 1.9          |     |
|                  |              |                           |              |     | TAU-DEE ONLY   | 0.4            | 1.8          | 4.6 |
|                  |              |                           |              |     | TAU-DELTA ONLY | 1.3            | 1.3          | 1.3 |
|                  |              |                           |              |     | TOTAL          | 1.1            | 1.3          | 1.3 |

TABLE 5 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP D          | RAT(S)       | 4                         | 5            | 8   | 12             | 15             | POINT 2      |     |
|------------------|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|-----|
| CYCLE LENGTH=100 |              | CLASS INTERVAL WIDTH= 2.0 |              |     |                | SCHEDULE 1     |              |     |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 0.4          | 1.2                       | 1.2          | 26  | 1.8            | 1.8            | 1.9          |     |
| 2                | 0.4          | 1.5                       | 4.1          | 27  | 1.6            | 1.7            | 1.7          |     |
| 3                | 0.4          | 2.3                       | 9.5          | 28  | 1.8            | 1.8            | 1.8          |     |
| 4                | 0.4          | 2.2                       | 0.0          | 29  | 1.6            | 1.6            | 1.6          |     |
| 5                | 0.4          | 2.7                       | 0.0          | 30  | 1.6            | 1.7            | 1.7          |     |
| 6                | 0.4          | 2.1                       | 0.0          | 31  | 1.7            | 1.8            | 1.8          |     |
| 7                | 0.4          | 2.3                       | 0.0          | 32  | 1.8            | 1.8            | 1.8          |     |
| 8                | 0.4          | 3.0                       | 0.0          | 33  | 1.7            | 1.8            | 1.8          |     |
| 9                | 0.4          | 2.4                       | 0.0          | 34  | 1.9            | 1.9            | 1.9          |     |
| 10               | 0.4          | 2.6                       | 0.0          | 35  | 1.9            | 2.0            | 2.0          |     |
| -----            |              |                           |              |     |                |                |              |     |
| 11               | 0.6          | 1.3                       | 1.9          | 36  | 1.7            | 1.9            | 1.9          |     |
| 12               | 1.6          | 1.7                       | 1.8          | 37  | 2.0            | 2.1            | 2.1          |     |
| 13               | 1.8          | 1.9                       | 2.0          | 38  | 2.0            | 2.1            | 2.1          |     |
| 14               | 1.7          | 1.7                       | 1.7          | 39  | 1.8            | 1.9            | 1.9          |     |
| 15               | 1.6          | 1.7                       | 1.7          | 40  | 1.9            | 2.0            | 2.0          |     |
| 16               | 1.5          | 1.5                       | 1.6          | 41  | 1.8            | 1.9            | 2.0          |     |
| 17               | 1.4          | 1.5                       | 1.5          | 42  | 1.9            | 2.0            | 2.0          |     |
| 18               | 1.5          | 1.6                       | 1.6          | 43  | 1.9            | 2.0            | 2.0          |     |
| 19               | 1.4          | 1.5                       | 1.5          | 44  | 2.0            | 2.1            | 2.1          |     |
| 20               | 1.6          | 1.6                       | 1.6          | 45  | 2.0            | 2.1            | 2.1          |     |
| 21               | 1.7          | 1.7                       | 1.7          | 46  | 2.0            | 2.1            | 2.1          |     |
| 22               | 1.5          | 1.5                       | 1.6          | 47  | 2.1            | 2.1            | 2.2          |     |
| 23               | 1.5          | 1.6                       | 1.6          | 48  | 2.0            | 2.0            | 2.1          |     |
| 24               | 1.6          | 1.7                       | 1.7          | 49  | 2.1            | 2.2            | 2.2          |     |
| 25               | 1.6          | 1.6                       | 1.6          | 50  | 2.1            | 2.2            | 2.3          |     |
|                  |              |                           |              |     | TAU-DEE ONLY   | 0.4            | 2.1          | 7.7 |
|                  |              |                           |              |     | TAU-DELTA ONLY | 1.7            | 1.8          | 1.9 |
|                  |              |                           |              |     | TOTAL          | 1.5            | 1.8          | 1.9 |

TABLE 5 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
(CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
(ALL RATES IN RESPONSES-PER-SECOND)

| GROUP D          | RAT(S)       | 4                         | 5            | 8   | 12             | 15             | POINT 2      |     |
|------------------|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|-----|
| CYCLE LENGTH=100 |              | CLASS INTERVAL WIDTH= 2.0 |              |     |                |                | SCHEDULE 2   |     |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 0.4          | 2.2                       | 4.0          | 26  | 2.0            | 3.4            | 3.9          |     |
| 2                | 0.4          | 2.4                       | 0.0          | 27  | 2.3            | 3.6            | 4.2          |     |
| 3                | 0.4          | 2.8                       | 0.0          | 28  | 2.2            | 3.4            | 3.9          |     |
| 4                | 0.4          | 2.8                       | 0.0          | 29  | 1.9            | 3.3            | 3.8          |     |
| 5                | 0.4          | 3.1                       | 0.0          | 30  | 2.0            | 3.3            | 3.8          |     |
| 6                | 0.4          | 2.9                       | 0.0          | 31  | 2.1            | 3.6            | 4.0          |     |
| 7                | 0.4          | 2.5                       | 0.0          | 32  | 2.0            | 3.4            | 3.8          |     |
| 8                | 0.4          | 2.7                       | 0.0          | 33  | 2.0            | 3.5            | 4.0          |     |
| 9                | 0.4          | 2.8                       | 0.0          | 34  | 2.2            | 3.4            | 3.9          |     |
| 10               | 0.4          | 2.9                       | 0.0          | 35  | 2.2            | 3.3            | 3.8          |     |
| -----            |              |                           |              |     |                |                |              |     |
| 11               | 0.9          | 2.0                       | 3.0          | 36  | 2.3            | 3.6            | 4.0          |     |
| 12               | 1.9          | 2.6                       | 2.9          | 37  | 2.2            | 3.7            | 4.0          |     |
| 13               | 1.9          | 3.0                       | 3.5          | 38  | 2.0            | 3.7            | 4.2          |     |
| 14               | 2.2          | 3.2                       | 3.6          | 39  | 2.1            | 3.4            | 4.0          |     |
| 15               | 2.1          | 3.3                       | 3.9          | 40  | 2.0            | 3.4            | 4.0          |     |
| 16               | 2.0          | 3.5                       | 4.0          | 41  | 2.0            | 3.4            | 4.0          |     |
| 17               | 2.0          | 3.4                       | 4.0          | 42  | 2.1            | 3.5            | 4.1          |     |
| 18               | 2.2          | 3.7                       | 4.1          | 43  | 1.8            | 3.3            | 4.1          |     |
| 19               | 2.0          | 3.4                       | 3.9          | 44  | 2.0            | 3.4            | 3.9          |     |
| 20               | 1.9          | 3.2                       | 3.9          | 45  | 2.1            | 3.3            | 3.8          |     |
| 21               | 1.9          | 3.3                       | 4.0          | 46  | 2.0            | 3.4            | 4.0          |     |
| 22               | 2.2          | 3.6                       | 4.1          | 47  | 2.1            | 3.4            | 4.0          |     |
| 23               | 2.3          | 3.7                       | 4.3          | 48  | 2.3            | 3.4            | 3.9          |     |
| 24               | 2.0          | 3.5                       | 4.2          | 49  | 1.8            | 3.2            | 3.7          |     |
| 25               | 1.9          | 3.2                       | 3.8          | 50  | 2.2            | 3.5            | 4.1          |     |
|                  |              |                           |              |     | TAU-DEE ONLY   | 0.4            | 2.7          | 0.0 |
|                  |              |                           |              |     | TAU-DELTA ONLY | 2.0            | 3.4          | 3.9 |
|                  |              |                           |              |     | TOTAL          | 1.7            | 3.3          | 4.1 |

TABLE 5 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP D          | RAT(S)       | 4                         | 5            | 8   | 12           | 15             | POINT 3      |
|------------------|--------------|---------------------------|--------------|-----|--------------|----------------|--------------|
| CYCLE LENGTH= 50 |              | CLASS INTERVAL WIDTH= 1.0 |              |     |              |                | SCHEDULE 0   |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE | CORRECTED RATE | RUNNING RATE |
| 1                | 0.7          | 1.8                       | 1.8          | 26  | 0.7          | 0.7            | 0.7          |
| 2                | 0.1          | 0.5                       | 0.5          | 27  | 0.7          | 0.7            | 0.8          |
| 3                | 0.6          | 1.9                       | 6.4          | 28  | 0.8          | 0.8            | 0.8          |
| 4                | 0.2          | 1.4                       | 3.3          | 29  | 0.9          | 0.9            | 1.0          |
| 5                | 0.5          | 2.0                       | 8.9          | 30  | 1.1          | 1.1            | 1.1          |
| 6                | 0.5          | 3.4                       | 0.0          | 31  | 1.1          | 1.1            | 1.1          |
| 7                | 0.3          | 2.5                       | 0.0          | 32  | 1.2          | 1.2            | 1.3          |
| 8                | 0.5          | 3.1                       | 0.0          | 33  | 1.3          | 1.3            | 1.3          |
| 9                | 0.3          | 2.5                       | 0.0          | 34  | 1.4          | 1.4            | 1.4          |
| 10               | 0.6          | 3.5                       | 0.0          | 35  | 1.5          | 1.5            | 1.5          |
| -----            |              |                           |              |     |              |                |              |
| 11               | 0.3          | 1.3                       | 2.3          | 36  | 1.4          | 1.4            | 1.5          |
| 12               | 0.8          | 1.1                       | 1.6          | 37  | 1.6          | 1.6            | 1.7          |
| 13               | 0.7          | 0.7                       | 0.8          | 38  | 1.7          | 1.7            | 1.7          |
| 14               | 0.6          | 0.6                       | 0.7          | 39  | 1.7          | 1.7            | 1.7          |
| 15               | 0.6          | 0.6                       | 0.6          | 40  | 1.8          | 1.8            | 1.8          |
| 16               | 0.5          | 0.5                       | 0.5          | 41  | 1.7          | 1.7            | 1.7          |
| 17               | 0.5          | 0.5                       | 0.5          | 42  | 1.9          | 1.9            | 1.9          |
| 18               | 0.5          | 0.5                       | 0.5          | 43  | 1.9          | 1.9            | 1.9          |
| 19               | 0.5          | 0.5                       | 0.5          | 44  | 2.0          | 2.0            | 2.0          |
| 20               | 0.5          | 0.5                       | 0.5          | 45  | 2.0          | 2.0            | 2.0          |
| 21               | 0.5          | 0.5                       | 0.5          | 46  | 2.0          | 2.0            | 2.0          |
| 22               | 0.5          | 0.5                       | 0.5          | 47  | 2.0          | 2.0            | 2.0          |
| 23               | 0.6          | 0.6                       | 0.6          | 48  | 2.0          | 2.0            | 2.0          |
| 24               | 0.6          | 0.6                       | 0.6          | 49  | 2.1          | 2.1            | 2.1          |
| 25               | 0.7          | 0.7                       | 0.7          | 50  | 2.1          | 2.1            | 2.1          |
| TAU-DEE ONLY     |              |                           |              |     | 0.4          | 2.1            | 4.8          |
| TAU-DELTA ONLY   |              |                           |              |     | 1.2          | 1.2            | 1.2          |
| TOTAL            |              |                           |              |     | 1.0          | 1.3            | 1.3          |

TABLE 5 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP D          | RAT(S)       | 4                         | 5            | 8   | 12             | 15             | POINT 3      |     |
|------------------|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|-----|
| CYCLE LENGTH= 50 |              | CLASS INTERVAL WIDTH= 1.0 |              |     |                | SCHEDULE 1     |              |     |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 0.7          | 1.7                       | 1.8          | 26  | 1.2            | 1.2            | 1.2          |     |
| 2                | 0.1          | 0.4                       | 0.4          | 27  | 1.2            | 1.2            | 1.2          |     |
| 3                | 0.6          | 1.8                       | 4.9          | 28  | 1.3            | 1.3            | 1.4          |     |
| 4                | 0.2          | 1.4                       | 2.6          | 29  | 1.2            | 1.2            | 1.3          |     |
| 5                | 0.5          | 2.6                       | 8.2          | 30  | 1.4            | 1.4            | 1.4          |     |
| 6                | 0.4          | 3.3                       | 0.0          | 31  | 1.5            | 1.5            | 1.5          |     |
| 7                | 0.4          | 3.3                       | 0.0          | 32  | 1.5            | 1.5            | 1.5          |     |
| 8                | 0.5          | 3.5                       | 0.0          | 33  | 1.4            | 1.4            | 1.4          |     |
| 9                | 0.3          | 2.7                       | 0.0          | 34  | 1.6            | 1.6            | 1.7          |     |
| 10               | 0.6          | 3.7                       | 0.0          | 35  | 1.5            | 1.5            | 1.6          |     |
| -----            |              |                           |              |     |                |                |              |     |
| 11               | 0.4          | 1.6                       | 2.5          | 36  | 1.6            | 1.7            | 1.7          |     |
| 12               | 1.0          | 1.4                       | 1.9          | 37  | 1.7            | 1.7            | 1.8          |     |
| 13               | 1.2          | 1.2                       | 1.4          | 38  | 1.9            | 1.9            | 1.9          |     |
| 14               | 1.3          | 1.3                       | 1.4          | 39  | 1.7            | 1.8            | 1.8          |     |
| 15               | 1.3          | 1.4                       | 1.5          | 40  | 1.8            | 1.8            | 1.9          |     |
| 16               | 1.3          | 1.4                       | 1.4          | 41  | 1.8            | 1.9            | 1.9          |     |
| 17               | 1.3          | 1.3                       | 1.4          | 42  | 1.8            | 1.8            | 1.8          |     |
| 18               | 1.1          | 1.2                       | 1.2          | 43  | 1.9            | 2.0            | 2.0          |     |
| 19               | 1.1          | 1.1                       | 1.1          | 44  | 1.8            | 2.0            | 2.0          |     |
| 20               | 1.2          | 1.2                       | 1.2          | 45  | 1.9            | 2.0            | 2.1          |     |
| 21               | 1.1          | 1.1                       | 1.1          | 46  | 2.0            | 2.1            | 2.1          |     |
| 22               | 1.1          | 1.1                       | 1.2          | 47  | 2.1            | 2.2            | 2.2          |     |
| 23               | 1.0          | 1.1                       | 1.1          | 48  | 1.9            | 2.0            | 2.0          |     |
| 24               | 1.0          | 1.1                       | 1.1          | 49  | 2.0            | 2.1            | 2.1          |     |
| 25               | 1.2          | 1.2                       | 1.3          | 50  | 2.1            | 2.2            | 2.2          |     |
|                  |              |                           |              |     | TAU-DEE ONLY   | 0.4            | 2.2          | 4.5 |
|                  |              |                           |              |     | TAU-DELTA ONLY | 1.5            | 1.5          | 1.6 |
|                  |              |                           |              |     | TOTAL          | 1.3            | 1.6          | 1.7 |

TABLE 5 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP D          | RAT(S)       | 4                         | 5            | 8   | 12             | 15             | POINT 3      |     |
|------------------|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|-----|
| CYCLE LENGTH= 50 |              | CLASS INTERVAL WIDTH= 1.0 |              |     |                |                | SCHEDULE 2   |     |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 0.7          | 3.1                       | 4.2          | 26  | 2.0            | 3.4            | 3.8          |     |
| 2                | 0.2          | 2.8                       | 7.1          | 27  | 1.9            | 3.2            | 3.6          |     |
| 3                | 0.7          | 3.6                       | 0.0          | 28  | 2.0            | 3.3            | 3.6          |     |
| 4                | 0.3          | 3.1                       | 0.0          | 29  | 2.0            | 3.2            | 3.5          |     |
| 5                | 0.6          | 4.1                       | 0.0          | 30  | 2.0            | 3.2            | 3.5          |     |
| 6                | 0.4          | 4.2                       | 0.0          | 31  | 2.0            | 3.2            | 3.5          |     |
| 7                | 0.5          | 4.3                       | 0.0          | 32  | 2.0            | 3.3            | 3.7          |     |
| 8                | 0.4          | 3.9                       | 0.0          | 33  | 1.8            | 3.0            | 3.3          |     |
| 9                | 0.4          | 3.6                       | 0.0          | 34  | 2.0            | 3.2            | 3.5          |     |
| 10               | 0.5          | 3.6                       | 0.0          | 35  | 1.9            | 3.3            | 3.6          |     |
| -----            |              |                           |              |     |                |                |              |     |
| 11               | 0.4          | 1.9                       | 3.2          | 36  | 1.7            | 3.0            | 3.5          |     |
| 12               | 1.4          | 2.1                       | 2.6          | 37  | 1.7            | 2.9            | 3.4          |     |
| 13               | 1.7          | 2.4                       | 2.5          | 38  | 1.9            | 3.2            | 3.6          |     |
| 14               | 1.6          | 2.5                       | 2.6          | 39  | 1.9            | 3.2            | 3.5          |     |
| 15               | 1.7          | 2.8                       | 3.0          | 40  | 2.0            | 3.2            | 3.6          |     |
| 16               | 1.8          | 2.9                       | 3.2          | 41  | 1.8            | 3.0            | 3.4          |     |
| 17               | 1.8          | 2.9                       | 3.1          | 42  | 2.0            | 3.1            | 3.4          |     |
| 18               | 1.9          | 3.1                       | 3.4          | 43  | 2.1            | 3.2            | 3.4          |     |
| 19               | 1.9          | 3.1                       | 3.4          | 44  | 1.9            | 3.3            | 3.7          |     |
| 20               | 1.8          | 3.0                       | 3.4          | 45  | 1.9            | 3.3            | 3.8          |     |
| 21               | 1.8          | 3.1                       | 3.4          | 46  | 1.8            | 2.9            | 3.3          |     |
| 22               | 2.1          | 3.4                       | 3.7          | 47  | 2.0            | 3.1            | 3.5          |     |
| 23               | 2.0          | 3.3                       | 3.8          | 48  | 2.0            | 3.2            | 3.5          |     |
| 24               | 1.9          | 3.2                       | 3.6          | 49  | 1.9            | 3.2            | 3.5          |     |
| 25               | 1.9          | 3.2                       | 3.6          | 50  | 2.0            | 3.2            | 3.5          |     |
|                  |              |                           |              |     | TAU-DEE ONLY   | 0.5            | 3.7          | 0.0 |
|                  |              |                           |              |     | TAU-DELTA ONLY | 1.9            | 3.1          | 3.4 |
|                  |              |                           |              |     | TOTAL          | 1.6            | 3.1          | 3.6 |

TABLE 5 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
(CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
(ALL RATES IN RESPONSES-PER-SECOND)

| GROUP D          | RAT(S)       | 4                         | 5            | 8   | 12             | 15             | POINT 4      |     |
|------------------|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|-----|
| CYCLE LENGTH= 10 |              | CLASS INTERVAL WIDTH= 0.2 |              |     |                |                | SCHEDULE 0   |     |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 2.1          | 3.3                       | 3.4          | 26  | 2.0            | 2.0            | 2.3          |     |
| 2                | 1.3          | 4.6                       | 4.8          | 27  | 2.3            | 2.3            | 2.6          |     |
| 3                | 0.5          | 3.3                       | 3.7          | 28  | 2.2            | 2.2            | 2.5          |     |
| 4                | 0.2          | 2.3                       | 2.7          | 29  | 2.3            | 2.3            | 2.5          |     |
| 5                | 0.1          | 1.4                       | 1.7          | 30  | 2.5            | 2.5            | 2.7          |     |
| 6                | 0.1          | 1.1                       | 1.4          | 31  | 2.3            | 2.3            | 2.5          |     |
| 7                | 0.0          | 0.7                       | 0.9          | 32  | 2.4            | 2.4            | 2.6          |     |
| 8                | 0.0          | 0.5                       | 0.7          | 33  | 2.5            | 2.5            | 2.7          |     |
| 9                | 0.0          | 0.6                       | 0.9          | 34  | 2.5            | 2.5            | 2.6          |     |
| 10               | 0.0          | 0.1                       | 0.1          | 35  | 2.6            | 2.6            | 2.7          |     |
| -----            |              |                           |              |     |                |                |              |     |
| 11               | 0.4          | 1.6                       | 9.0          | 36  | 2.6            | 2.6            | 2.8          |     |
| 12               | 0.8          | 1.4                       | 5.1          | 37  | 2.8            | 2.8            | 3.0          |     |
| 13               | 0.9          | 1.1                       | 2.8          | 38  | 2.9            | 2.9            | 3.0          |     |
| 14               | 0.9          | 1.0                       | 2.2          | 39  | 2.9            | 2.9            | 3.0          |     |
| 15               | 1.0          | 1.2                       | 2.1          | 40  | 2.9            | 2.9            | 3.0          |     |
| 16               | 1.1          | 1.2                       | 2.0          | 41  | 2.9            | 2.9            | 3.0          |     |
| 17               | 1.2          | 1.3                       | 2.0          | 42  | 2.9            | 2.9            | 3.0          |     |
| 18               | 1.4          | 1.5                       | 2.1          | 43  | 2.9            | 2.9            | 2.9          |     |
| 19               | 1.7          | 1.8                       | 2.4          | 44  | 2.9            | 2.9            | 3.0          |     |
| 20               | 1.7          | 1.8                       | 2.3          | 45  | 3.0            | 3.0            | 3.0          |     |
| 21               | 1.9          | 1.9                       | 2.4          | 46  | 2.8            | 2.8            | 2.9          |     |
| 22               | 2.0          | 2.0                       | 2.4          | 47  | 2.9            | 2.9            | 3.0          |     |
| 23               | 2.0          | 2.0                       | 2.3          | 48  | 3.0            | 3.0            | 3.0          |     |
| 24               | 1.9          | 1.9                       | 2.2          | 49  | 2.9            | 2.9            | 2.9          |     |
| 25               | 2.1          | 2.1                       | 2.4          | 50  | 3.5            | 3.5            | 3.6          |     |
|                  |              |                           |              |     | TAU-DEE ONLY   | 0.4            | 3.0          | 3.3 |
|                  |              |                           |              |     | TAU-DELTA ONLY | 2.2            | 2.3          | 2.7 |
|                  |              |                           |              |     | TOTAL          | 1.9            | 2.3          | 2.7 |

TABLE 5 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP D          | RAT(S)       | 4                         | 5            | 8   | 12             | 15             | POINT 4      |     |
|------------------|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|-----|
| CYCLE LENGTH= 10 |              | CLASS INTERVAL WIDTH= 0.2 |              |     |                |                | SCHEDULE 1   |     |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 1.9          | 3.1                       | 3.2          | 26  | 2.4            | 2.5            | 2.7          |     |
| 2                | 1.3          | 4.6                       | 5.0          | 27  | 2.5            | 2.6            | 2.8          |     |
| 3                | 0.5          | 2.9                       | 3.3          | 28  | 2.5            | 2.6            | 2.8          |     |
| 4                | 0.2          | 2.1                       | 2.6          | 29  | 2.5            | 2.6            | 2.8          |     |
| 5                | 0.1          | 1.2                       | 1.6          | 30  | 2.7            | 2.8            | 3.0          |     |
| 6                | 0.1          | 1.3                       | 1.9          | 31  | 2.6            | 2.7            | 2.9          |     |
| 7                | 0.1          | 0.8                       | 1.3          | 32  | 2.6            | 2.8            | 2.9          |     |
| 8                | 0.1          | 1.0                       | 1.5          | 33  | 2.7            | 2.8            | 3.0          |     |
| 9                | 0.0          | 0.6                       | 1.1          | 34  | 2.5            | 2.6            | 2.7          |     |
| 10               | 0.0          | 0.7                       | 1.1          | 35  | 2.6            | 2.8            | 2.9          |     |
| -----            |              |                           |              |     |                |                |              |     |
| 11               | 0.5          | 2.2                       | 8.4          | 36  | 2.9            | 3.1            | 3.2          |     |
| 12               | 1.0          | 1.8                       | 5.2          | 37  | 2.8            | 2.9            | 3.0          |     |
| 13               | 1.0          | 1.3                       | 2.7          | 38  | 2.8            | 3.0            | 3.1          |     |
| 14               | 1.0          | 1.2                       | 2.3          | 39  | 3.0            | 3.1            | 3.3          |     |
| 15               | 1.3          | 1.6                       | 2.5          | 40  | 2.7            | 2.8            | 3.0          |     |
| 16               | 1.6          | 1.8                       | 2.6          | 41  | 2.8            | 3.0            | 3.1          |     |
| 17               | 1.7          | 2.0                       | 2.6          | 42  | 2.8            | 3.0            | 3.1          |     |
| 18               | 1.8          | 2.1                       | 2.6          | 43  | 2.8            | 3.0            | 3.1          |     |
| 19               | 2.0          | 2.2                       | 2.7          | 44  | 2.9            | 3.1            | 3.2          |     |
| 20               | 2.0          | 2.3                       | 2.7          | 45  | 3.0            | 3.2            | 3.3          |     |
| 21               | 2.2          | 2.5                       | 2.9          | 46  | 2.8            | 3.0            | 3.1          |     |
| 22               | 2.4          | 2.5                       | 2.8          | 47  | 2.9            | 3.1            | 3.2          |     |
| 23               | 2.3          | 2.4                       | 2.6          | 48  | 2.7            | 2.9            | 3.0          |     |
| 24               | 2.3          | 2.4                       | 2.6          | 49  | 2.9            | 3.1            | 3.2          |     |
| 25               | 2.5          | 2.6                       | 2.8          | 50  | 3.5            | 3.7            | 3.8          |     |
|                  |              |                           |              |     | TAU-DEE ONLY   | 0.4            | 2.8          | 3.3 |
|                  |              |                           |              |     | TAU-DELTA ONLY | 2.4            | 2.6          | 3.0 |
|                  |              |                           |              |     | TOTAL          | 2.0            | 2.6          | 3.0 |

TABLE 5 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP D          | RAT(S)       | 4                         | 5            | 8   | 12             | 15             | POINT 4      |     |
|------------------|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|-----|
| CYCLE LENGTH= 10 |              | CLASS INTERVAL WIDTH= 0.2 |              |     |                |                | SCHEDULE 2   |     |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 1.3          | 3.1                       | 3.5          | 26  | 2.0            | 3.3            | 3.5          |     |
| 2                | 0.9          | 4.0                       | 4.9          | 27  | 2.0            | 3.3            | 3.4          |     |
| 3                | 0.4          | 2.6                       | 3.5          | 28  | 1.7            | 2.9            | 3.1          |     |
| 4                | 0.3          | 2.4                       | 3.7          | 29  | 1.8            | 3.0            | 3.2          |     |
| 5                | 0.3          | 2.4                       | 3.9          | 30  | 1.7            | 2.9            | 3.1          |     |
| 6                | 0.2          | 1.7                       | 3.0          | 31  | 1.8            | 3.0            | 3.2          |     |
| 7                | 0.2          | 2.3                       | 4.1          | 32  | 1.7            | 3.0            | 3.1          |     |
| 8                | 0.2          | 2.9                       | 5.6          | 33  | 1.9            | 3.2            | 3.4          |     |
| 9                | 0.2          | 2.3                       | 5.3          | 34  | 2.1            | 3.4            | 3.7          |     |
| 10               | 0.3          | 3.5                       | 9.3          | 35  | 2.0            | 3.3            | 3.5          |     |
| -----            |              |                           |              |     |                |                |              |     |
| 11               | 0.8          | 4.6                       | 0.0          | 36  | 2.1            | 3.4            | 3.6          |     |
| 12               | 1.2          | 3.2                       | 6.1          | 37  | 2.2            | 3.6            | 3.9          |     |
| 13               | 1.1          | 2.3                       | 3.5          | 38  | 2.1            | 3.4            | 3.7          |     |
| 14               | 1.1          | 2.1                       | 2.9          | 39  | 1.9            | 3.1            | 3.3          |     |
| 15               | 1.2          | 2.2                       | 2.8          | 40  | 2.0            | 3.3            | 3.5          |     |
| 16               | 1.5          | 2.6                       | 5.1          | 41  | 2.1            | 3.5            | 3.7          |     |
| 17               | 1.5          | 2.6                       | 3.1          | 42  | 2.0            | 3.4            | 3.7          |     |
| 18               | 1.7          | 2.8                       | 3.3          | 43  | 2.0            | 3.4            | 3.7          |     |
| 19               | 1.8          | 3.0                       | 3.4          | 44  | 2.0            | 3.4            | 3.7          |     |
| 20               | 1.8          | 2.9                       | 3.3          | 45  | 2.0            | 3.4            | 3.7          |     |
| 21               | 2.2          | 3.3                       | 3.8          | 46  | 2.0            | 3.3            | 3.6          |     |
| 22               | 2.3          | 3.3                       | 3.6          | 47  | 1.9            | 3.2            | 3.5          |     |
| 23               | 2.0          | 3.0                       | 3.3          | 48  | 2.1            | 3.4            | 3.7          |     |
| 24               | 2.1          | 3.2                       | 3.5          | 49  | 2.0            | 3.3            | 3.5          |     |
| 25               | 2.0          | 3.1                       | 3.3          | 50  | 2.5            | 4.0            | 4.3          |     |
|                  |              |                           |              |     | TAU-DEE ONLY   | 0.4            | 3.1          | 4.3 |
|                  |              |                           |              |     | TAU-DELTA ONLY | 1.8            | 3.1          | 3.5 |
|                  |              |                           |              |     | TOTAL          | 1.6            | 3.1          | 3.6 |

TABLE 5 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP D          | RAT(S)       | 4                         | 5            | 8   | 12           | 15             | POINT 5      |
|------------------|--------------|---------------------------|--------------|-----|--------------|----------------|--------------|
| CYCLE LENGTH=100 |              | CLASS INTERVAL WIDTH= 2.0 |              |     |              |                | SCHEDULE 0   |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE | CORRECTED RATE | RUNNING RATE |
| 1                | 0.4          | 1.4                       | 1.4          | 26  | 0.5          | 0.5            | 0.6          |
| 2                | 0.4          | 2.3                       | 4.3          | 27  | 0.6          | 0.6            | 0.7          |
| 3                | 0.4          | 2.5                       | 5.6          | 28  | 0.8          | 0.8            | 0.8          |
| 4                | 0.4          | 3.1                       | 8.0          | 29  | 0.9          | 0.9            | 0.9          |
| 5                | 0.4          | 3.6                       | 0.0          | 30  | 0.8          | 0.8            | 0.8          |
| 6                | 0.4          | 4.4                       | 0.0          | 31  | 0.9          | 0.9            | 0.9          |
| 7                | 0.5          | 5.8                       | 0.0          | 32  | 1.1          | 1.1            | 1.1          |
| 8                | 0.4          | 3.9                       | 0.0          | 33  | 1.1          | 1.1            | 1.1          |
| 9                | 0.4          | 4.4                       | 0.0          | 34  | 1.2          | 1.2            | 1.2          |
| 10               | 0.4          | 5.1                       | 0.0          | 35  | 1.3          | 1.3            | 1.3          |
| -----            |              |                           |              |     |              |                |              |
| 11               | 0.6          | 1.2                       | 1.5          | 36  | 1.4          | 1.4            | 1.4          |
| 12               | 0.6          | 0.6                       | 0.6          | 37  | 1.5          | 1.5            | 1.5          |
| 13               | 0.6          | 0.6                       | 0.6          | 38  | 1.5          | 1.5            | 1.5          |
| 14               | 0.5          | 0.5                       | 0.5          | 39  | 1.5          | 1.5            | 1.5          |
| 15               | 0.3          | 0.3                       | 0.3          | 40  | 1.7          | 1.7            | 1.7          |
| 16               | 0.2          | 0.2                       | 0.2          | 41  | 1.7          | 1.7            | 1.7          |
| 17               | 0.2          | 0.2                       | 0.2          | 42  | 1.9          | 1.9            | 1.9          |
| 18               | 0.2          | 0.2                       | 0.2          | 43  | 2.0          | 2.0            | 2.0          |
| 19               | 0.3          | 0.3                       | 0.3          | 44  | 1.9          | 1.9            | 1.9          |
| 20               | 0.3          | 0.3                       | 0.3          | 45  | 2.0          | 2.0            | 2.0          |
| 21               | 0.2          | 0.2                       | 0.2          | 46  | 2.1          | 2.1            | 2.1          |
| 22               | 0.4          | 0.4                       | 0.4          | 47  | 2.0          | 2.0            | 2.0          |
| 23               | 0.4          | 0.4                       | 0.4          | 48  | 2.1          | 2.1            | 2.1          |
| 24               | 0.5          | 0.5                       | 0.5          | 49  | 2.1          | 2.1            | 2.1          |
| 25               | 0.5          | 0.5                       | 0.5          | 50  | 2.2          | 2.2            | 2.2          |
| TAU-DEE ONLY     |              |                           |              |     | 0.4          | 3.1            | 7.6          |
| TAU-DELTA ONLY   |              |                           |              |     | 1.1          | 1.1            | 1.1          |
| TOTAL            |              |                           |              |     | 0.9          | 1.1            | 1.2          |

TABLE 5 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP D          | RAT(S)       | 4                         | 5            | 8   | 12             | 15             | POINT 5      |     |
|------------------|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|-----|
| CYCLE LENGTH=100 |              | CLASS INTERVAL WIDTH= 2.0 |              |     |                |                | SCHEDULE 1   |     |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 0.4          | 1.2                       | 1.2          | 26  | 1.2            | 1.2            | 1.2          |     |
| 2                | 0.4          | 2.0                       | 3.1          | 27  | 1.3            | 1.3            | 1.3          |     |
| 3                | 0.4          | 2.0                       | 3.3          | 28  | 1.2            | 1.3            | 1.3          |     |
| 4                | 0.4          | 2.1                       | 3.9          | 29  | 1.3            | 1.4            | 1.4          |     |
| 5                | 0.4          | 2.4                       | 5.0          | 30  | 1.3            | 1.3            | 1.3          |     |
| 6                | 0.4          | 2.8                       | 6.9          | 31  | 1.2            | 1.3            | 1.3          |     |
| 7                | 0.4          | 3.0                       | 7.8          | 32  | 1.5            | 1.5            | 1.5          |     |
| 8                | 0.4          | 3.5                       | 9.8          | 33  | 1.6            | 1.6            | 1.6          |     |
| 9                | 0.4          | 3.6                       | 0.0          | 34  | 1.6            | 1.6            | 1.6          |     |
| 10               | 0.4          | 3.1                       | 0.0          | 35  | 1.6            | 1.6            | 1.6          |     |
| -----            |              |                           |              |     |                |                |              |     |
| 11               | 0.7          | 1.3                       | 1.5          | 36  | 1.7            | 1.7            | 1.7          |     |
| 12               | 1.3          | 1.3                       | 1.3          | 37  | 1.6            | 1.6            | 1.7          |     |
| 13               | 1.4          | 1.5                       | 1.5          | 38  | 1.7            | 1.7            | 1.7          |     |
| 14               | 1.3          | 1.3                       | 1.3          | 39  | 1.6            | 1.7            | 1.7          |     |
| 15               | 1.2          | 1.2                       | 1.2          | 40  | 1.7            | 1.7            | 1.7          |     |
| 16               | 1.2          | 1.2                       | 1.2          | 41  | 1.8            | 1.9            | 1.9          |     |
| 17               | 1.0          | 1.0                       | 1.0          | 42  | 1.8            | 1.8            | 1.8          |     |
| 18               | 0.9          | 0.9                       | 1.0          | 43  | 1.9            | 2.0            | 2.0          |     |
| 19               | 1.0          | 1.0                       | 1.0          | 44  | 1.9            | 2.0            | 2.0          |     |
| 20               | 0.9          | 0.9                       | 0.9          | 45  | 1.9            | 2.0            | 2.0          |     |
| 21               | 0.9          | 1.0                       | 1.0          | 46  | 1.9            | 2.0            | 2.0          |     |
| 22               | 1.0          | 1.0                       | 1.0          | 47  | 2.0            | 2.0            | 2.1          |     |
| 23               | 1.1          | 1.1                       | 1.1          | 48  | 2.0            | 2.1            | 2.2          |     |
| 24               | 1.2          | 1.2                       | 1.2          | 49  | 1.9            | 2.0            | 2.0          |     |
| 25               | 1.3          | 1.3                       | 1.3          | 50  | 2.1            | 2.2            | 2.2          |     |
|                  |              |                           |              |     | TAU-DEE ONLY   | 0.4            | 2.4          | 4.2 |
|                  |              |                           |              |     | TAU-DELTA ONLY | 1.4            | 1.5          | 1.5 |
|                  |              |                           |              |     | TOTAL          | 1.2            | 1.5          | 1.6 |

TABLE 5 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
(CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
(ALL RATES IN RESPONSES-PER-SECOND)

| GROUP D          | RAT(S)       | 4                         | 5            | 8   | 12             | 15             | POINT 5      |            |
|------------------|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|------------|
| CYCLE LENGTH=100 |              | CLASS INTERVAL WIDTH= 2.0 |              |     |                |                | POINT 5      | SCHEDULE 2 |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |            |
| 1                | 0.4          | 2.1                       | 2.8          | 26  | 1.9            | 3.1            | 3.4          |            |
| 2                | 0.5          | 4.8                       | 0.0          | 27  | 2.0            | 3.3            | 3.7          |            |
| 3                | 0.5          | 5.5                       | 0.0          | 28  | 2.0            | 3.4            | 3.8          |            |
| 4                | 0.5          | 6.2                       | 0.0          | 29  | 2.2            | 3.3            | 3.5          |            |
| 5                | 0.5          | 6.7                       | 0.0          | 30  | 1.9            | 3.3            | 3.6          |            |
| 6                | 0.5          | 7.4                       | 0.0          | 31  | 2.1            | 3.5            | 3.8          |            |
| 7                | 0.5          | 6.2                       | 0.0          | 32  | 1.8            | 3.2            | 3.5          |            |
| 8                | 0.4          | 5.4                       | 0.0          | 33  | 2.0            | 3.3            | 3.5          |            |
| 9                | 0.4          | 5.1                       | 0.0          | 34  | 2.2            | 3.3            | 3.6          |            |
| 10               | 0.4          | 5.1                       | 0.0          | 35  | 1.9            | 3.2            | 3.5          |            |
| -----            |              |                           |              |     |                |                |              |            |
| 11               | 0.9          | 1.9                       | 2.5          | 36  | 1.9            | 3.3            | 3.5          |            |
| 12               | 1.8          | 2.5                       | 2.6          | 37  | 2.1            | 3.2            | 3.5          |            |
| 13               | 2.2          | 3.3                       | 3.5          | 38  | 2.1            | 3.4            | 3.6          |            |
| 14               | 2.0          | 3.3                       | 3.6          | 39  | 1.9            | 3.4            | 3.7          |            |
| 15               | 1.9          | 3.0                       | 3.3          | 40  | 1.9            | 3.2            | 3.6          |            |
| 16               | 1.9          | 3.5                       | 3.9          | 41  | 2.0            | 3.2            | 3.5          |            |
| 17               | 1.9          | 3.0                       | 3.4          | 42  | 2.0            | 3.3            | 3.5          |            |
| 18               | 2.0          | 3.4                       | 3.7          | 43  | 1.9            | 3.1            | 3.4          |            |
| 19               | 1.8          | 3.2                       | 3.6          | 44  | 1.9            | 3.3            | 3.6          |            |
| 20               | 2.1          | 3.4                       | 3.8          | 45  | 2.3            | 3.5            | 3.7          |            |
| 21               | 1.9          | 3.1                       | 3.5          | 46  | 2.0            | 3.4            | 3.6          |            |
| 22               | 2.1          | 3.4                       | 3.8          | 47  | 2.1            | 3.4            | 3.7          |            |
| 23               | 2.1          | 3.5                       | 3.7          | 48  | 1.9            | 3.3            | 3.6          |            |
| 24               | 2.0          | 3.3                       | 3.6          | 49  | 1.8            | 3.2            | 3.4          |            |
| 25               | 1.8          | 3.2                       | 3.5          | 50  | 2.0            | 3.1            | 3.4          |            |
|                  |              |                           |              |     | TAU-DEE ONLY   | 0.5            | 4.9          | 0.0        |
|                  |              |                           |              |     | TAU-DELTA ONLY | 1.9            | 3.2          | 3.5        |
|                  |              |                           |              |     | TOTAL          | 1.7            | 3.3          | 3.7        |

TABLE 6

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

GROUP X      RAT(S)    9 13 19                      POINT 1  
 CYCLE LENGTH= 1      CLASS INTERVAL WIDTH= 0.1      SCHEDULE 0

| OVERALL CORRECTED RUNNING |      |      |      | OVERALL CORRECTED RUNNING |                |      |      |     |
|---------------------------|------|------|------|---------------------------|----------------|------|------|-----|
| INT                       | RATE | RATE | RATE | INT                       | RATE           | RATE | RATE |     |
| 1                         | 1.5  | 1.6  | 1.8  | 26                        | 0.0            | 0.0  | 0.0  |     |
| 2                         | 2.5  | 2.8  | 3.1  | 27                        | 0.0            | 0.0  | 0.0  |     |
| 3                         | 2.4  | 2.7  | 3.0  | 28                        | 0.0            | 0.0  | 0.0  |     |
| 4                         | 2.3  | 2.6  | 2.9  | 29                        | 0.0            | 0.0  | 0.0  |     |
| 5                         | 2.3  | 2.6  | 2.9  | 30                        | 0.0            | 0.0  | 0.0  |     |
| 6                         | 2.4  | 2.7  | 2.9  | 31                        | 0.0            | 0.0  | 0.0  |     |
| 7                         | 2.3  | 2.7  | 2.9  | 32                        | 0.0            | 0.0  | 0.0  |     |
| 8                         | 2.4  | 2.7  | 2.9  | 33                        | 0.0            | 0.0  | 0.0  |     |
| 9                         | 2.4  | 2.7  | 2.8  | 34                        | 0.0            | 0.0  | 0.0  |     |
| 10                        | 3.3  | 3.7  | 3.9  | 35                        | 0.0            | 0.0  | 0.0  |     |
| -----                     |      |      |      |                           |                |      |      |     |
| 11                        | 0.0  | 0.0  | 0.0  | 36                        | 0.0            | 0.0  | 0.0  |     |
| 12                        | 0.0  | 0.0  | 0.0  | 37                        | 0.0            | 0.0  | 0.0  |     |
| 13                        | 0.0  | 0.0  | 0.0  | 38                        | 0.0            | 0.0  | 0.0  |     |
| 14                        | 0.0  | 0.0  | 0.0  | 39                        | 0.0            | 0.0  | 0.0  |     |
| 15                        | 0.0  | 0.0  | 0.0  | 40                        | 0.0            | 0.0  | 0.0  |     |
| 16                        | 0.0  | 0.0  | 0.0  | 41                        | 0.0            | 0.0  | 0.0  |     |
| 17                        | 0.0  | 0.0  | 0.0  | 42                        | 0.0            | 0.0  | 0.0  |     |
| 18                        | 0.0  | 0.0  | 0.0  | 43                        | 0.0            | 0.0  | 0.0  |     |
| 19                        | 0.0  | 0.0  | 0.0  | 44                        | 0.0            | 0.0  | 0.0  |     |
| 20                        | 0.0  | 0.0  | 0.0  | 45                        | 0.0            | 0.0  | 0.0  |     |
| 21                        | 0.0  | 0.0  | 0.0  | 46                        | 0.0            | 0.0  | 0.0  |     |
| 22                        | 0.0  | 0.0  | 0.0  | 47                        | 0.0            | 0.0  | 0.0  |     |
| 23                        | 0.0  | 0.0  | 0.0  | 48                        | 0.0            | 0.0  | 0.0  |     |
| 24                        | 0.0  | 0.0  | 0.0  | 49                        | 0.0            | 0.0  | 0.0  |     |
| 25                        | 0.0  | 0.0  | 0.0  | 50                        | 0.0            | 0.0  | 0.0  |     |
|                           |      |      |      |                           | TAU-DEE ONLY   | 3.2  | 3.6  | 3.9 |
|                           |      |      |      |                           | TAU-DELTA ONLY | 2.2  | 2.5  | 2.7 |
|                           |      |      |      |                           | TOTAL          | 2.4  | 2.7  | 2.9 |

TABLE 6 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP X       | RAT(S)       | 9                         | 13           | 19  | POINT 1        |                |              |     |
|---------------|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|-----|
| CYCLE LENGTH= | 1            | CLASS INTERVAL WIDTH= 0.1 |              |     | SCHEDULE 1     |                |              |     |
| INT           | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1             | 1.2          | 1.4                       | 1.6          | 26  | 0.0            | 0.0            | 0.0          |     |
| 2             | 2.8          | 3.4                       | 3.8          | 27  | 0.0            | 0.0            | 0.0          |     |
| 3             | 2.7          | 3.2                       | 3.7          | 28  | 0.0            | 0.0            | 0.0          |     |
| 4             | 2.7          | 3.2                       | 3.6          | 29  | 0.0            | 0.0            | 0.0          |     |
| 5             | 2.7          | 3.2                       | 3.6          | 30  | 0.0            | 0.0            | 0.0          |     |
| 6             | 2.7          | 3.2                       | 3.6          | 31  | 0.0            | 0.0            | 0.0          |     |
| 7             | 2.7          | 3.2                       | 3.6          | 32  | 0.0            | 0.0            | 0.0          |     |
| 8             | 2.7          | 3.2                       | 3.6          | 33  | 0.0            | 0.0            | 0.0          |     |
| 9             | 2.8          | 3.3                       | 3.6          | 34  | 0.0            | 0.0            | 0.0          |     |
| 10            | 4.2          | 5.0                       | 5.3          | 35  | 0.0            | 0.0            | 0.0          |     |
| -----         |              |                           |              |     |                |                |              |     |
| 11            | 0.0          | 0.0                       | 0.0          | 36  | 0.0            | 0.0            | 0.0          |     |
| 12            | 0.0          | 0.0                       | 0.0          | 37  | 0.0            | 0.0            | 0.0          |     |
| 13            | 0.0          | 0.0                       | 0.0          | 38  | 0.0            | 0.0            | 0.0          |     |
| 14            | 0.0          | 0.0                       | 0.0          | 39  | 0.0            | 0.0            | 0.0          |     |
| 15            | 0.0          | 0.0                       | 0.0          | 40  | 0.0            | 0.0            | 0.0          |     |
| 16            | 0.0          | 0.0                       | 0.0          | 41  | 0.0            | 0.0            | 0.0          |     |
| 17            | 0.0          | 0.0                       | 0.0          | 42  | 0.0            | 0.0            | 0.0          |     |
| 18            | 0.0          | 0.0                       | 0.0          | 43  | 0.0            | 0.0            | 0.0          |     |
| 19            | 0.0          | 0.0                       | 0.0          | 44  | 0.0            | 0.0            | 0.0          |     |
| 20            | 0.0          | 0.0                       | 0.0          | 45  | 0.0            | 0.0            | 0.0          |     |
| 21            | 0.0          | 0.0                       | 0.0          | 46  | 0.0            | 0.0            | 0.0          |     |
| 22            | 0.0          | 0.0                       | 0.0          | 47  | 0.0            | 0.0            | 0.0          |     |
| 23            | 0.0          | 0.0                       | 0.0          | 48  | 0.0            | 0.0            | 0.0          |     |
| 24            | 0.0          | 0.0                       | 0.0          | 49  | 0.0            | 0.0            | 0.0          |     |
| 25            | 0.0          | 0.0                       | 0.0          | 50  | 0.0            | 0.0            | 0.0          |     |
|               |              |                           |              |     | TAU-DEE ONLY   | 3.4            | 4.0          | 4.5 |
|               |              |                           |              |     | TAU-DELTA ONLY | 2.6            | 3.1          | 3.4 |
|               |              |                           |              |     | TOTAL          | 2.7            | 3.3          | 3.6 |

TABLE 6 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP X       | RAT(S)       | 9                         | 13           | 19  | POINT 1        |                |              |     |
|---------------|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|-----|
| CYCLE LENGTH= | 1            | CLASS INTERVAL WIDTH= 0.1 |              |     | SCHEDULE 2     |                |              |     |
| INT           | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1             | 1.0          | 1.6                       | 2.1          | 26  | 0.0            | 0.0            | 0.0          |     |
| 2             | 2.1          | 3.4                       | 4.3          | 27  | 0.0            | 0.0            | 0.0          |     |
| 3             | 1.9          | 3.2                       | 4.0          | 28  | 0.0            | 0.0            | 0.0          |     |
| 4             | 2.0          | 3.3                       | 4.2          | 29  | 0.0            | 0.0            | 0.0          |     |
| 5             | 2.0          | 3.2                       | 4.1          | 30  | 0.0            | 0.0            | 0.0          |     |
| 6             | 2.1          | 3.4                       | 4.3          | 31  | 0.0            | 0.0            | 0.0          |     |
| 7             | 2.0          | 3.3                       | 4.2          | 32  | 0.0            | 0.0            | 0.0          |     |
| 8             | 2.0          | 3.3                       | 4.2          | 33  | 0.0            | 0.0            | 0.0          |     |
| 9             | 2.0          | 3.3                       | 4.1          | 34  | 0.0            | 0.0            | 0.0          |     |
| 10            | 2.8          | 4.5                       | 5.6          | 35  | 0.0            | 0.0            | 0.0          |     |
| -----         |              |                           |              |     |                |                |              |     |
| 11            | 0.0          | 0.0                       | 0.0          | 36  | 0.0            | 0.0            | 0.0          |     |
| 12            | 0.0          | 0.0                       | 0.0          | 37  | 0.0            | 0.0            | 0.0          |     |
| 13            | 0.0          | 0.0                       | 0.0          | 38  | 0.0            | 0.0            | 0.0          |     |
| 14            | 0.0          | 0.0                       | 0.0          | 39  | 0.0            | 0.0            | 0.0          |     |
| 15            | 0.0          | 0.0                       | 0.0          | 40  | 0.0            | 0.0            | 0.0          |     |
| 16            | 0.0          | 0.0                       | 0.0          | 41  | 0.0            | 0.0            | 0.0          |     |
| 17            | 0.0          | 0.0                       | 0.0          | 42  | 0.0            | 0.0            | 0.0          |     |
| 18            | 0.0          | 0.0                       | 0.0          | 43  | 0.0            | 0.0            | 0.0          |     |
| 19            | 0.0          | 0.0                       | 0.0          | 44  | 0.0            | 0.0            | 0.0          |     |
| 20            | 0.0          | 0.0                       | 0.0          | 45  | 0.0            | 0.0            | 0.0          |     |
| 21            | 0.0          | 0.0                       | 0.0          | 46  | 0.0            | 0.0            | 0.0          |     |
| 22            | 0.0          | 0.0                       | 0.0          | 47  | 0.0            | 0.0            | 0.0          |     |
| 23            | 0.0          | 0.0                       | 0.0          | 48  | 0.0            | 0.0            | 0.0          |     |
| 24            | 0.0          | 0.0                       | 0.0          | 49  | 0.0            | 0.0            | 0.0          |     |
| 25            | 0.0          | 0.0                       | 0.0          | 50  | 0.0            | 0.0            | 0.0          |     |
|               |              |                           |              |     | TAU-DEE ONLY   | 2.5            | 4.0          | 5.2 |
|               |              |                           |              |     | TAU-DELTA ONLY | 1.9            | 3.1          | 3.9 |
|               |              |                           |              |     | TOTAL          | 2.0            | 3.3          | 4.2 |

TABLE 6 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP X          | RAT(S)                    |                |              | 9 13 19 |                |                | POINT 2      |     |
|------------------|---------------------------|----------------|--------------|---------|----------------|----------------|--------------|-----|
| CYCLE LENGTH= 10 | CLASS INTERVAL WIDTH= 0.2 |                |              |         |                |                | SCHEDULE 0   |     |
| INT              | OVERALL RATE              | CORRECTED RATE | RUNNING RATE | INT     | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 2.3                       | 2.4            | 2.5          | 26      | 2.8            | 2.8            | 3.3          |     |
| 2                | 2.7                       | 3.0            | 3.2          | 27      | 2.7            | 2.7            | 3.2          |     |
| 3                | 2.6                       | 3.1            | 3.3          | 28      | 2.8            | 2.8            | 3.2          |     |
| 4                | 2.4                       | 3.0            | 3.2          | 29      | 2.8            | 2.8            | 3.3          |     |
| 5                | 2.2                       | 2.9            | 3.0          | 30      | 2.7            | 2.7            | 3.2          |     |
| 6                | 2.1                       | 2.9            | 3.1          | 31      | 2.8            | 2.8            | 3.2          |     |
| 7                | 1.9                       | 2.8            | 2.9          | 32      | 2.8            | 2.8            | 3.2          |     |
| 8                | 1.8                       | 2.8            | 2.9          | 33      | 2.9            | 2.9            | 3.3          |     |
| 9                | 1.6                       | 2.6            | 2.7          | 34      | 2.8            | 2.8            | 3.2          |     |
| 10               | 1.5                       | 2.6            | 2.7          | 35      | 2.9            | 2.9            | 3.3          |     |
| -----            |                           |                |              |         |                |                |              |     |
| 11               | 1.4                       | 2.4            | 2.6          | 36      | 2.8            | 2.8            | 3.1          |     |
| 12               | 1.2                       | 1.9            | 2.2          | 37      | 2.8            | 2.8            | 3.1          |     |
| 13               | 1.5                       | 2.1            | 2.7          | 38      | 2.9            | 2.9            | 3.1          |     |
| 14               | 1.6                       | 2.1            | 2.9          | 39      | 2.8            | 2.8            | 3.0          |     |
| 15               | 1.6                       | 2.0            | 2.7          | 40      | 2.9            | 2.9            | 3.1          |     |
| 16               | 1.8                       | 2.1            | 2.9          | 41      | 2.9            | 2.9            | 3.1          |     |
| 17               | 1.8                       | 2.1            | 2.9          | 42      | 2.9            | 2.9            | 3.1          |     |
| 18               | 2.0                       | 2.2            | 3.0          | 43      | 2.9            | 2.9            | 3.1          |     |
| 19               | 2.0                       | 2.2            | 2.9          | 44      | 2.9            | 2.9            | 3.1          |     |
| 20               | 2.1                       | 2.1            | 2.9          | 45      | 2.9            | 2.9            | 3.1          |     |
| 21               | 2.4                       | 2.4            | 3.2          | 46      | 3.0            | 3.0            | 3.2          |     |
| 22               | 2.4                       | 2.4            | 3.1          | 47      | 3.0            | 3.0            | 3.2          |     |
| 23               | 2.5                       | 2.5            | 3.2          | 48      | 2.9            | 2.9            | 3.1          |     |
| 24               | 2.5                       | 2.5            | 3.1          | 49      | 3.1            | 3.1            | 3.3          |     |
| 25               | 2.7                       | 2.7            | 3.3          | 50      | 3.8            | 3.8            | 4.0          |     |
|                  |                           |                |              |         | TAU-DEE ONLY   | 2.2            | 2.9          | 3.1 |
|                  |                           |                |              |         | TAU-DELTA ONLY | 2.5            | 2.7          | 3.1 |
|                  |                           |                |              |         | TOTAL          | 2.5            | 2.7          | 3.1 |

TABLE 6 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP X          | RAT(S)       | 9                         | 13           | 19  | POINT 2        |                |              |     |
|------------------|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|-----|
| CYCLE LENGTH= 10 |              | CLASS INTERVAL WIDTH= 0.2 |              |     | SCHEDULE 1     |                |              |     |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 2.4          | 2.7                       | 2.8          | 26  | 3.2            | 3.4            | 3.9          |     |
| 2                | 3.1          | 3.7                       | 3.9          | 27  | 3.3            | 3.5            | 3.9          |     |
| 3                | 2.7          | 3.5                       | 3.6          | 28  | 3.3            | 3.4            | 3.8          |     |
| 4                | 2.4          | 3.3                       | 3.5          | 29  | 3.3            | 3.5            | 3.8          |     |
| 5                | 2.3          | 3.4                       | 3.6          | 30  | 3.4            | 3.6            | 3.8          |     |
| 6                | 2.2          | 3.5                       | 3.7          | 31  | 3.3            | 3.4            | 3.7          |     |
| 7                | 2.0          | 3.4                       | 3.6          | 32  | 3.4            | 3.6            | 3.9          |     |
| 8                | 1.9          | 3.3                       | 3.6          | 33  | 3.3            | 3.5            | 3.7          |     |
| 9                | 1.8          | 3.4                       | 3.7          | 34  | 3.4            | 3.6            | 3.8          |     |
| 10               | 1.6          | 3.2                       | 3.5          | 35  | 3.2            | 3.4            | 3.6          |     |
| -----            |              |                           |              |     |                |                |              |     |
| 11               | 1.5          | 2.9                       | 3.4          | 36  | 3.4            | 3.6            | 3.7          |     |
| 12               | 1.6          | 2.8                       | 3.6          | 37  | 3.5            | 3.7            | 3.9          |     |
| 13               | 1.8          | 2.8                       | 3.7          | 38  | 3.5            | 3.7            | 3.8          |     |
| 14               | 1.8          | 2.7                       | 3.7          | 39  | 3.4            | 3.6            | 3.7          |     |
| 15               | 2.0          | 2.7                       | 3.7          | 40  | 3.4            | 3.6            | 3.7          |     |
| 16               | 2.2          | 2.8                       | 3.8          | 41  | 3.4            | 3.6            | 3.8          |     |
| 17               | 2.3          | 2.7                       | 3.6          | 42  | 3.2            | 3.4            | 3.6          |     |
| 18               | 2.3          | 2.7                       | 3.6          | 43  | 3.3            | 3.5            | 3.6          |     |
| 19               | 2.5          | 2.8                       | 3.6          | 44  | 3.3            | 3.5            | 3.7          |     |
| 20               | 2.5          | 2.7                       | 3.5          | 45  | 3.4            | 3.6            | 3.7          |     |
| 21               | 2.8          | 2.9                       | 3.7          | 46  | 3.5            | 3.7            | 3.8          |     |
| 22               | 2.8          | 3.0                       | 3.6          | 47  | 3.4            | 3.5            | 3.7          |     |
| 23               | 3.0          | 3.1                       | 3.7          | 48  | 3.4            | 3.6            | 3.7          |     |
| 24               | 3.0          | 3.1                       | 3.7          | 49  | 3.4            | 3.6            | 3.8          |     |
| 25               | 3.2          | 3.3                       | 3.8          | 50  | 4.2            | 4.5            | 4.7          |     |
|                  |              |                           |              |     | TAU-DEE ONLY   | 2.3            | 3.4          | 3.7 |
|                  |              |                           |              |     | TAU-DELTA ONLY | 3.0            | 3.3          | 3.7 |
|                  |              |                           |              |     | TOTAL          | 2.9            | 3.3          | 3.7 |

TABLE 6 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP X          | RAT(S) 9 13 19            |                |              | POINT 2    |                |                |              |     |
|------------------|---------------------------|----------------|--------------|------------|----------------|----------------|--------------|-----|
| CYCLE LENGTH= 10 | CLASS INTERVAL WIDTH= 0.2 |                |              | SCHEDULE 2 |                |                |              |     |
| INT              | OVERALL RATE              | CORRECTED RATE | RUNNING RATE | INT        | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 1.7                       | 2.7            | 3.5          | 26         | 2.0            | 3.5            | 4.5          |     |
| 2                | 2.1                       | 3.5            | 4.3          | 27         | 2.1            | 3.4            | 4.4          |     |
| 3                | 2.1                       | 3.5            | 4.4          | 28         | 2.1            | 3.4            | 4.3          |     |
| 4                | 2.1                       | 3.4            | 4.2          | 29         | 2.3            | 3.7            | 4.6          |     |
| 5                | 2.1                       | 3.3            | 4.1          | 30         | 2.2            | 3.6            | 4.5          |     |
| 6                | 2.3                       | 3.6            | 4.5          | 31         | 2.2            | 3.5            | 4.3          |     |
| 7                | 2.1                       | 3.5            | 4.3          | 32         | 2.3            | 3.7            | 4.5          |     |
| 8                | 2.0                       | 3.3            | 4.1          | 33         | 2.3            | 3.7            | 4.4          |     |
| 9                | 2.1                       | 3.4            | 4.1          | 34         | 2.1            | 3.5            | 4.1          |     |
| 10               | 2.2                       | 3.6            | 4.2          | 35         | 2.1            | 3.3            | 4.1          |     |
| -----            |                           |                |              |            |                |                |              |     |
| 11               | 2.1                       | 3.7            | 4.3          | 36         | 2.2            | 3.6            | 4.3          |     |
| 12               | 2.1                       | 3.6            | 4.3          | 37         | 2.3            | 3.8            | 4.5          |     |
| 13               | 2.0                       | 3.4            | 4.1          | 38         | 2.3            | 3.8            | 4.5          |     |
| 14               | 2.3                       | 3.9            | 4.7          | 39         | 2.1            | 3.5            | 4.2          |     |
| 15               | 2.1                       | 3.6            | 4.2          | 40         | 2.2            | 3.7            | 4.5          |     |
| 16               | 2.2                       | 3.8            | 4.6          | 41         | 2.1            | 3.6            | 4.4          |     |
| 17               | 2.1                       | 3.8            | 4.6          | 42         | 2.0            | 3.5            | 4.3          |     |
| 18               | 2.2                       | 3.9            | 4.7          | 43         | 2.1            | 3.7            | 4.4          |     |
| 19               | 2.1                       | 3.7            | 4.4          | 44         | 2.1            | 3.8            | 4.5          |     |
| 20               | 2.0                       | 3.6            | 4.3          | 45         | 2.1            | 3.8            | 4.7          |     |
| 21               | 2.1                       | 3.7            | 4.5          | 46         | 1.9            | 3.6            | 4.5          |     |
| 22               | 2.1                       | 3.6            | 4.5          | 47         | 2.0            | 3.6            | 4.5          |     |
| 23               | 2.1                       | 3.6            | 4.5          | 48         | 2.1            | 3.7            | 4.6          |     |
| 24               | 2.1                       | 3.6            | 4.4          | 49         | 2.0            | 3.5            | 4.5          |     |
| 25               | 2.0                       | 3.4            | 4.2          | 50         | 2.5            | 4.3            | 5.3          |     |
|                  |                           |                |              |            | TAU-DEE ONLY   | 2.2            | 3.6          | 4.4 |
|                  |                           |                |              |            | TAU-DELTA ONLY | 2.1            | 3.6          | 4.4 |
|                  |                           |                |              |            | TOTAL          | 2.1            | 3.6          | 4.4 |



TABLE 6 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP X          | RAT(S)       | 9                         | 13           | 19  | POINT 3        |                |              |     |
|------------------|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|-----|
| CYCLE LENGTH= 50 |              | CLASS INTERVAL WIDTH= 1.0 |              |     | SCHEDULE 1     |                |              |     |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 2.3          | 2.8                       | 3.0          | 26  | 3.0            | 3.2            | 3.4          |     |
| 2                | 1.9          | 2.9                       | 3.2          | 27  | 2.9            | 3.1            | 3.4          |     |
| 3                | 1.5          | 2.4                       | 3.3          | 28  | 3.1            | 3.3            | 3.5          |     |
| 4                | 1.3          | 1.9                       | 3.5          | 29  | 3.3            | 3.5            | 3.7          |     |
| 5                | 1.3          | 1.9                       | 3.7          | 30  | 3.1            | 3.3            | 3.4          |     |
| 6                | 1.4          | 2.0                       | 3.6          | 31  | 3.3            | 3.6            | 3.8          |     |
| 7                | 1.4          | 2.0                       | 3.5          | 32  | 2.9            | 3.1            | 3.3          |     |
| 8                | 1.2          | 1.7                       | 3.3          | 33  | 3.1            | 3.3            | 3.6          |     |
| 9                | 1.5          | 2.1                       | 3.7          | 34  | 2.8            | 3.0            | 3.3          |     |
| 10               | 1.7          | 2.3                       | 3.7          | 35  | 3.0            | 3.2            | 3.5          |     |
| -----            |              |                           |              |     |                |                |              |     |
| 11               | 2.0          | 2.6                       | 3.7          | 36  | 3.0            | 3.2            | 3.6          |     |
| 12               | 2.3          | 2.6                       | 3.5          | 37  | 3.0            | 3.1            | 3.5          |     |
| 13               | 2.8          | 2.8                       | 3.4          | 38  | 3.0            | 3.1            | 3.4          |     |
| 14               | 3.2          | 3.3                       | 3.7          | 39  | 3.0            | 3.2            | 3.3          |     |
| 15               | 3.2          | 3.5                       | 3.7          | 40  | 3.1            | 3.3            | 3.5          |     |
| 16               | 3.0          | 3.3                       | 3.4          | 41  | 3.0            | 3.3            | 3.5          |     |
| 17               | 3.4          | 3.5                       | 3.9          | 42  | 2.8            | 3.0            | 3.2          |     |
| 18               | 3.3          | 3.4                       | 3.7          | 43  | 2.9            | 3.1            | 3.4          |     |
| 19               | 3.2          | 3.5                       | 3.7          | 44  | 3.2            | 3.4            | 3.6          |     |
| 20               | 3.3          | 3.6                       | 3.9          | 45  | 3.3            | 3.5            | 3.7          |     |
| 21               | 3.2          | 3.4                       | 3.8          | 46  | 3.1            | 3.3            | 3.5          |     |
| 22               | 3.2          | 3.3                       | 3.7          | 47  | 3.0            | 3.2            | 3.4          |     |
| 23               | 3.1          | 3.3                       | 3.6          | 48  | 3.1            | 3.3            | 3.5          |     |
| 24               | 3.1          | 3.4                       | 3.6          | 49  | 3.0            | 3.3            | 3.5          |     |
| 25               | 3.0          | 3.2                       | 3.4          | 50  | 3.4            | 3.7            | 3.9          |     |
|                  |              |                           |              |     | TAU-DEE ONLY   | 1.6            | 2.2          | 3.4 |
|                  |              |                           |              |     | TAU-DELTA ONLY | 3.0            | 3.3          | 3.5 |
|                  |              |                           |              |     | TOTAL          | 2.7            | 3.1          | 3.5 |

TABLE 6 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP X          | RAT(S) 9 13 19            |      |      | POINT 3                   |                |      |      |     |
|------------------|---------------------------|------|------|---------------------------|----------------|------|------|-----|
| CYCLE LENGTH= 50 | CLASS INTERVAL WIDTH= 1.0 |      |      | SCHEDULE 2                |                |      |      |     |
|                  | OVERALL CORRECTED RUNNING |      |      | OVERALL CORRECTED RUNNING |                |      |      |     |
| INT              | RATE                      | RATE | RATE | INT                       | RATE           | RATE | RATE |     |
| 1                | 1.5                       | 2.2  | 3.2  | 26                        | 1.9            | 2.8  | 4.0  |     |
| 2                | 1.9                       | 2.8  | 3.8  | 27                        | 1.9            | 2.8  | 4.1  |     |
| 3                | 2.1                       | 3.1  | 4.0  | 28                        | 1.9            | 2.9  | 4.1  |     |
| 4                | 1.7                       | 2.9  | 4.3  | 29                        | 1.8            | 2.9  | 4.2  |     |
| 5                | 1.4                       | 2.3  | 3.6  | 30                        | 1.8            | 2.7  | 4.2  |     |
| 6                | 1.7                       | 2.7  | 4.2  | 31                        | 2.0            | 2.8  | 4.3  |     |
| 7                | 1.8                       | 2.7  | 4.1  | 32                        | 2.1            | 2.9  | 4.1  |     |
| 8                | 1.8                       | 2.8  | 4.0  | 33                        | 2.0            | 3.1  | 4.3  |     |
| 9                | 2.0                       | 3.0  | 4.3  | 34                        | 1.8            | 2.9  | 4.2  |     |
| 10               | 1.9                       | 2.8  | 4.1  | 35                        | 1.9            | 2.7  | 4.2  |     |
| -----            |                           |      |      |                           |                |      |      |     |
| 11               | 2.1                       | 3.2  | 4.4  | 36                        | 1.9            | 2.9  | 3.9  |     |
| 12               | 1.7                       | 2.7  | 3.9  | 37                        | 2.0            | 3.0  | 4.0  |     |
| 13               | 1.8                       | 2.7  | 3.8  | 38                        | 1.8            | 2.8  | 4.0  |     |
| 14               | 1.8                       | 2.8  | 4.0  | 39                        | 1.9            | 3.0  | 4.2  |     |
| 15               | 1.9                       | 3.2  | 4.4  | 40                        | 1.9            | 2.9  | 4.2  |     |
| 16               | 1.8                       | 2.9  | 4.2  | 41                        | 2.0            | 3.2  | 4.5  |     |
| 17               | 1.8                       | 2.7  | 4.3  | 42                        | 1.9            | 2.9  | 4.3  |     |
| 18               | 1.8                       | 2.7  | 4.0  | 43                        | 1.8            | 2.8  | 3.9  |     |
| 19               | 2.0                       | 3.0  | 4.4  | 44                        | 1.8            | 2.8  | 4.2  |     |
| 20               | 1.9                       | 2.9  | 4.1  | 45                        | 1.8            | 2.7  | 4.0  |     |
| 21               | 2.0                       | 3.0  | 4.5  | 46                        | 1.9            | 2.9  | 4.2  |     |
| 22               | 1.9                       | 2.9  | 4.2  | 47                        | 2.0            | 3.0  | 4.1  |     |
| 23               | 1.8                       | 3.0  | 4.3  | 48                        | 2.0            | 2.9  | 4.1  |     |
| 24               | 1.9                       | 3.0  | 4.2  | 49                        | 2.0            | 3.2  | 4.2  |     |
| 25               | 1.9                       | 2.8  | 4.3  | 50                        | 1.7            | 2.9  | 4.3  |     |
|                  |                           |      |      |                           | TAU-DEE ONLY   | 1.8  | 2.8  | 4.0 |
|                  |                           |      |      |                           | TAU-DELTA ONLY | 1.9  | 2.9  | 4.2 |
|                  |                           |      |      |                           | TOTAL          | 1.9  | 2.9  | 4.1 |

TABLE 6 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP X          | RAT(S)       | 9                         | 13           | 19  | POINT 4        |                |              |     |
|------------------|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|-----|
| CYCLE LENGTH=100 |              | CLASS INTERVAL WIDTH= 2.0 |              |     | SCHEDULE 0     |                |              |     |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 1.5          | 1.8                       | 1.8          | 26  | 0.9            | 0.9            | 0.9          |     |
| 2                | 1.0          | 1.2                       | 1.5          | 27  | 1.0            | 1.0            | 1.0          |     |
| 3                | 0.9          | 1.1                       | 1.4          | 28  | 0.9            | 0.9            | 0.9          |     |
| 4                | 1.1          | 1.3                       | 1.6          | 29  | 1.3            | 1.3            | 1.3          |     |
| 5                | 1.0          | 1.3                       | 1.6          | 30  | 1.4            | 1.4            | 1.4          |     |
| 6                | 1.0          | 1.2                       | 1.7          | 31  | 1.4            | 1.4            | 1.4          |     |
| 7                | 0.9          | 1.2                       | 1.6          | 32  | 1.5            | 1.5            | 1.5          |     |
| 8                | 0.9          | 1.2                       | 1.8          | 33  | 1.6            | 1.6            | 1.6          |     |
| 9                | 0.9          | 1.1                       | 1.7          | 34  | 1.6            | 1.6            | 1.6          |     |
| 10               | 1.1          | 1.4                       | 1.8          | 35  | 1.6            | 1.6            | 1.6          |     |
| -----            |              |                           |              |     |                |                |              |     |
| 11               | 1.6          | 1.8                       | 2.3          | 36  | 1.8            | 1.8            | 1.8          |     |
| 12               | 1.8          | 1.8                       | 2.2          | 37  | 1.6            | 1.6            | 1.6          |     |
| 13               | 2.1          | 2.1                       | 2.2          | 38  | 1.8            | 1.8            | 1.8          |     |
| 14               | 2.1          | 2.1                       | 2.1          | 39  | 1.9            | 1.9            | 1.9          |     |
| 15               | 1.4          | 1.4                       | 1.4          | 40  | 1.8            | 1.8            | 1.8          |     |
| 16               | 1.4          | 1.4                       | 1.4          | 41  | 1.9            | 1.9            | 1.9          |     |
| 17               | 1.2          | 1.2                       | 1.2          | 42  | 1.9            | 1.9            | 1.9          |     |
| 18               | 1.2          | 1.2                       | 1.2          | 43  | 1.8            | 1.8            | 1.8          |     |
| 19               | 1.0          | 1.0                       | 1.1          | 44  | 1.8            | 1.8            | 1.8          |     |
| 20               | 1.1          | 1.1                       | 1.1          | 45  | 1.7            | 1.7            | 1.7          |     |
| 21               | 1.0          | 1.0                       | 1.0          | 46  | 1.8            | 1.8            | 1.8          |     |
| 22               | 1.0          | 1.0                       | 1.0          | 47  | 1.5            | 1.5            | 1.5          |     |
| 23               | 0.9          | 0.9                       | 0.9          | 48  | 1.5            | 1.5            | 1.5          |     |
| 24               | 0.8          | 0.8                       | 0.8          | 49  | 1.6            | 1.6            | 1.6          |     |
| 25               | 0.9          | 0.9                       | 0.9          | 50  | 1.8            | 1.8            | 1.8          |     |
|                  |              |                           |              |     | TAU-DEE ONLY   | 1.0            | 1.3          | 1.7 |
|                  |              |                           |              |     | TAU-DELTA ONLY | 1.5            | 1.5          | 1.5 |
|                  |              |                           |              |     | TOTAL          | 1.4            | 1.4          | 1.5 |

TABLE 6 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP X          | RAT(S) 9 13 19            |                |              | POINT 4    |                |                |              |     |
|------------------|---------------------------|----------------|--------------|------------|----------------|----------------|--------------|-----|
| CYCLE LENGTH=100 | CLASS INTERVAL WIDTH= 2.0 |                |              | SCHEDULE 1 |                |                |              |     |
| INT              | OVERALL RATE              | CORRECTED RATE | RUNNING RATE | INT        | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 2.2                       | 2.8            | 2.9          | 26         | 2.8            | 2.9            | 3.1          |     |
| 2                | 1.5                       | 2.4            | 3.4          | 27         | 2.9            | 3.1            | 3.3          |     |
| 3                | 1.3                       | 1.9            | 3.6          | 28         | 2.4            | 2.5            | 2.7          |     |
| 4                | 1.6                       | 2.4            | 4.1          | 29         | 2.6            | 2.8            | 3.0          |     |
| 5                | 1.3                       | 2.1            | 3.7          | 30         | 2.8            | 3.0            | 3.2          |     |
| 6                | 1.5                       | 2.1            | 3.6          | 31         | 2.9            | 3.0            | 3.2          |     |
| 7                | 1.3                       | 2.0            | 3.3          | 32         | 3.1            | 3.2            | 3.4          |     |
| 8                | 1.7                       | 2.3            | 3.7          | 33         | 2.8            | 3.0            | 3.1          |     |
| 9                | 1.4                       | 2.1            | 3.4          | 34         | 2.9            | 3.1            | 3.3          |     |
| 10               | 1.3                       | 1.9            | 3.6          | 35         | 2.7            | 2.9            | 3.1          |     |
| -----            |                           |                |              |            |                |                |              |     |
| 11               | 2.0                       | 2.3            | 3.3          | 36         | 3.0            | 3.2            | 3.4          |     |
| 12               | 2.8                       | 3.0            | 3.5          | 37         | 3.1            | 3.4            | 3.6          |     |
| 13               | 3.3                       | 3.5            | 3.7          | 38         | 2.9            | 3.0            | 3.2          |     |
| 14               | 3.1                       | 3.3            | 3.4          | 39         | 2.9            | 3.1            | 3.3          |     |
| 15               | 3.1                       | 3.2            | 3.4          | 40         | 2.8            | 3.1            | 3.3          |     |
| 16               | 2.6                       | 2.7            | 2.9          | 41         | 2.7            | 2.9            | 3.3          |     |
| 17               | 2.7                       | 2.8            | 3.0          | 42         | 2.9            | 3.1            | 3.3          |     |
| 18               | 2.6                       | 2.9            | 3.0          | 43         | 3.0            | 3.1            | 3.3          |     |
| 19               | 2.2                       | 2.3            | 2.6          | 44         | 3.2            | 3.3            | 3.4          |     |
| 20               | 2.3                       | 2.4            | 2.6          | 45         | 3.2            | 3.3            | 3.4          |     |
| 21               | 2.5                       | 2.7            | 2.8          | 46         | 3.3            | 3.4            | 3.6          |     |
| 22               | 2.5                       | 2.5            | 2.7          | 47         | 3.1            | 3.4            | 3.5          |     |
| 23               | 2.7                       | 2.8            | 2.9          | 48         | 2.8            | 3.0            | 3.3          |     |
| 24               | 2.7                       | 2.9            | 3.1          | 49         | 2.9            | 3.1            | 3.3          |     |
| 25               | 2.7                       | 2.9            | 3.1          | 50         | 3.1            | 3.2            | 3.5          |     |
|                  |                           |                |              |            | TAU-DEE ONLY   | 1.5            | 2.2          | 3.5 |
|                  |                           |                |              |            | TAU-DELTA ONLY | 2.8            | 3.0          | 3.2 |
|                  |                           |                |              |            | TOTAL          | 2.6            | 2.9          | 3.2 |

TABLE 6 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP X          | RAT(S)       | 9                         | 13           | 19  | POINT 4        |                |              |     |
|------------------|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|-----|
| CYCLE LENGTH=100 |              | CLASS INTERVAL WIDTH= 2.0 |              |     | SCHEDULE 2     |                |              |     |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 1.8          | 2.7                       | 3.4          | 26  | 1.6            | 2.4            | 4.1          |     |
| 2                | 1.5          | 2.4                       | 3.7          | 27  | 2.2            | 3.2            | 4.4          |     |
| 3                | 1.8          | 2.8                       | 4.4          | 28  | 1.8            | 3.0            | 4.7          |     |
| 4                | 1.7          | 2.7                       | 4.3          | 29  | 1.6            | 2.4            | 3.9          |     |
| 5                | 1.8          | 2.7                       | 4.1          | 30  | 1.8            | 2.7            | 4.2          |     |
| 6                | 1.9          | 2.7                       | 3.8          | 31  | 1.9            | 2.7            | 3.9          |     |
| 7                | 1.9          | 3.1                       | 4.5          | 32  | 1.7            | 2.8            | 4.1          |     |
| 8                | 1.5          | 2.4                       | 3.9          | 33  | 1.7            | 2.6            | 4.1          |     |
| 9                | 1.6          | 2.6                       | 4.0          | 34  | 1.7            | 2.7            | 4.0          |     |
| 10               | 1.5          | 2.6                       | 4.2          | 35  | 2.1            | 3.1            | 4.4          |     |
| -----            |              |                           |              |     |                |                |              |     |
| 11               | 1.7          | 2.6                       | 4.3          | 36  | 1.9            | 2.9            | 4.6          |     |
| 12               | 1.9          | 2.8                       | 4.3          | 37  | 1.7            | 2.6            | 4.0          |     |
| 13               | 2.2          | 3.3                       | 4.5          | 38  | 1.6            | 2.8            | 4.8          |     |
| 14               | 1.5          | 2.7                       | 4.3          | 39  | 1.7            | 2.7            | 4.4          |     |
| 15               | 1.5          | 2.3                       | 4.0          | 40  | 2.1            | 3.1            | 4.6          |     |
| 16               | 2.1          | 3.2                       | 4.4          | 41  | 1.8            | 2.8            | 4.1          |     |
| 17               | 1.7          | 2.7                       | 4.1          | 42  | 1.6            | 2.7            | 3.9          |     |
| 18               | 1.9          | 3.0                       | 4.7          | 43  | 1.7            | 2.7            | 4.6          |     |
| 19               | 1.6          | 2.4                       | 3.7          | 44  | 1.9            | 2.9            | 4.1          |     |
| 20               | 1.8          | 2.8                       | 4.4          | 45  | 1.7            | 2.8            | 4.2          |     |
| 21               | 1.8          | 2.9                       | 4.4          | 46  | 1.8            | 2.7            | 4.2          |     |
| 22               | 1.9          | 2.7                       | 4.1          | 47  | 2.2            | 3.1            | 4.2          |     |
| 23               | 1.8          | 2.8                       | 4.0          | 48  | 1.7            | 2.8            | 4.0          |     |
| 24               | 1.8          | 2.8                       | 4.3          | 49  | 1.6            | 2.5            | 4.1          |     |
| 25               | 1.6          | 2.6                       | 4.4          | 50  | 2.0            | 3.1            | 4.4          |     |
|                  |              |                           |              |     | TAU-DEE ONLY   | 1.7            | 2.7          | 4.0 |
|                  |              |                           |              |     | TAU-DELTA ONLY | 1.8            | 2.8          | 4.2 |
|                  |              |                           |              |     | TOTAL          | 1.8            | 2.8          | 4.2 |

TABLE 6 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP X          | RAT(S)  | 9                         | 13      | 19  | POINT 5        |           |         |     |
|------------------|---------|---------------------------|---------|-----|----------------|-----------|---------|-----|
| CYCLE LENGTH=500 |         | CLASS INTERVAL WIDTH=10.0 |         |     | SCHEDULE 0     |           |         |     |
|                  | OVERALL | CORRECTED                 | RUNNING |     | OVERALL        | CORRECTED | RUNNING |     |
| INT              | RATE    | RATE                      | RATE    | INT | RATE           | RATE      | RATE    |     |
| 1                | 1.7     | 2.4                       | 2.9     | 26  | 0.1            | 0.1       | 0.1     |     |
| 2                | 1.6     | 2.3                       | 2.9     | 27  | 0.1            | 0.1       | 0.1     |     |
| 3                | 1.3     | 2.1                       | 2.9     | 28  | 0.0            | 0.0       | 0.0     |     |
| 4                | 1.5     | 2.2                       | 3.0     | 29  | 0.0            | 0.0       | 0.0     |     |
| 5                | 1.3     | 2.1                       | 3.0     | 30  | 0.1            | 0.1       | 0.1     |     |
| 6                | 1.5     | 2.3                       | 3.1     | 31  | 0.2            | 0.2       | 0.2     |     |
| 7                | 1.8     | 2.5                       | 3.3     | 32  | 0.2            | 0.2       | 0.2     |     |
| 8                | 1.6     | 2.3                       | 3.1     | 33  | 0.2            | 0.2       | 0.2     |     |
| 9                | 1.6     | 2.4                       | 3.1     | 34  | 0.0            | 0.0       | 0.0     |     |
| 10               | 1.7     | 2.3                       | 3.1     | 35  | 0.0            | 0.0       | 0.0     |     |
| -----            |         |                           |         |     |                |           |         |     |
| 11               | 3.1     | 3.2                       | 3.2     | 36  | 0.2            | 0.2       | 0.2     |     |
| 12               | 2.4     | 2.4                       | 2.4     | 37  | 0.0            | 0.0       | 0.0     |     |
| 13               | 0.9     | 0.9                       | 0.9     | 38  | 0.1            | 0.1       | 0.1     |     |
| 14               | 0.5     | 0.5                       | 0.5     | 39  | 0.1            | 0.1       | 0.1     |     |
| 15               | 0.7     | 0.7                       | 0.7     | 40  | 0.0            | 0.0       | 0.0     |     |
| 16               | 0.4     | 0.4                       | 0.4     | 41  | 0.0            | 0.0       | 0.0     |     |
| 17               | 0.3     | 0.3                       | 0.3     | 42  | 0.0            | 0.0       | 0.0     |     |
| 18               | 0.4     | 0.4                       | 0.4     | 43  | 0.0            | 0.0       | 0.0     |     |
| 19               | 0.6     | 0.6                       | 0.6     | 44  | 0.0            | 0.0       | 0.0     |     |
| 20               | 0.7     | 0.7                       | 0.7     | 45  | 0.2            | 0.2       | 0.2     |     |
| 21               | 0.3     | 0.3                       | 0.3     | 46  | 0.0            | 0.0       | 0.0     |     |
| 22               | 0.3     | 0.3                       | 0.3     | 47  | 0.0            | 0.0       | 0.0     |     |
| 23               | 0.2     | 0.2                       | 0.2     | 48  | 0.0            | 0.0       | 0.0     |     |
| 24               | 0.1     | 0.1                       | 0.1     | 49  | 0.0            | 0.0       | 0.0     |     |
| 25               | 0.1     | 0.1                       | 0.1     | 50  | 0.0            | 0.0       | 0.0     |     |
|                  |         |                           |         |     | TAU-DEE ONLY   | 1.6       | 2.3     | 3.1 |
|                  |         |                           |         |     | TAU-DELTA ONLY | 0.3       | 0.3     | 0.3 |
|                  |         |                           |         |     | TOTAL          | 0.6       | 0.6     | 0.6 |

TABLE 6 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP X          | RAT(S)       | 9                         | 13           | 19  | POINT 5        |                |              |     |
|------------------|--------------|---------------------------|--------------|-----|----------------|----------------|--------------|-----|
| CYCLE LENGTH=500 |              | CLASS INTERVAL WIDTH=10.0 |              |     | SCHEDULE 1     |                |              |     |
| INT              | OVERALL RATE | CORRECTED RATE            | RUNNING RATE | INT | OVERALL RATE   | CORRECTED RATE | RUNNING RATE |     |
| 1                | 1.7          | 2.2                       | 2.5          | 26  | 1.6            | 1.7            | 1.8          |     |
| 2                | 1.2          | 2.1                       | 3.4          | 27  | 1.7            | 1.8            | 1.9          |     |
| 3                | 2.0          | 2.9                       | 3.7          | 28  | 1.7            | 1.7            | 1.8          |     |
| 4                | 1.6          | 2.5                       | 3.8          | 29  | 2.0            | 2.1            | 2.2          |     |
| 5                | 1.6          | 2.5                       | 4.2          | 30  | 1.9            | 1.9            | 2.0          |     |
| 6                | 1.7          | 2.5                       | 3.8          | 31  | 1.3            | 1.4            | 1.5          |     |
| 7                | 1.9          | 2.9                       | 4.0          | 32  | 1.8            | 1.8            | 1.9          |     |
| 8                | 1.9          | 2.8                       | 4.0          | 33  | 1.8            | 1.9            | 2.1          |     |
| 9                | 1.7          | 2.6                       | 3.8          | 34  | 1.7            | 1.8            | 1.9          |     |
| 10               | 2.0          | 2.9                       | 3.9          | 35  | 1.5            | 1.6            | 1.7          |     |
| -----            |              |                           |              |     |                |                |              |     |
| 11               | 2.8          | 3.4                       | 3.9          | 36  | 1.7            | 1.8            | 1.8          |     |
| 12               | 3.2          | 3.4                       | 3.5          | 37  | 1.6            | 1.7            | 1.8          |     |
| 13               | 3.2          | 3.5                       | 3.6          | 38  | 1.9            | 1.9            | 2.1          |     |
| 14               | 2.6          | 2.8                       | 2.9          | 39  | 1.6            | 1.7            | 1.7          |     |
| 15               | 2.3          | 2.3                       | 2.4          | 40  | 1.7            | 1.8            | 1.8          |     |
| 16               | 1.6          | 1.7                       | 1.7          | 41  | 1.8            | 1.8            | 1.9          |     |
| 17               | 1.7          | 1.8                       | 1.9          | 42  | 1.5            | 1.6            | 1.7          |     |
| 18               | 1.9          | 2.1                       | 2.2          | 43  | 1.5            | 1.6            | 1.8          |     |
| 19               | 2.0          | 2.1                       | 2.3          | 44  | 1.8            | 1.8            | 1.8          |     |
| 20               | 2.1          | 2.2                       | 2.3          | 45  | 1.2            | 1.2            | 1.2          |     |
| 21               | 1.8          | 1.9                       | 1.9          | 46  | 1.2            | 1.2            | 1.3          |     |
| 22               | 1.5          | 1.6                       | 1.7          | 47  | 1.4            | 1.5            | 1.5          |     |
| 23               | 1.5          | 1.5                       | 1.6          | 48  | 1.7            | 1.7            | 1.8          |     |
| 24               | 1.7          | 1.8                       | 1.9          | 49  | 1.2            | 1.2            | 1.3          |     |
| 25               | 1.7          | 1.8                       | 1.9          | 50  | 1.5            | 1.5            | 1.6          |     |
|                  |              |                           |              |     | TAU-DEE ONLY   | 1.7            | 2.6          | 3.7 |
|                  |              |                           |              |     | TAU-DELTA ONLY | 1.8            | 1.9          | 2.0 |
|                  |              |                           |              |     | TOTAL          | 1.8            | 2.0          | 2.2 |

TABLE 6 (CONTINUED)

RATE AS A FUNCTION OF TIME WITHIN TAU CYCLES  
 (CYCLE LENGTH AND CLASS INTERVAL WIDTH IN SECONDS)  
 (ALL RATES IN RESPONSES-PER-SECOND)

| GROUP X          | RAT(S)                    |      |      | 9 13 19                   |                |      | POINT 5    |     |
|------------------|---------------------------|------|------|---------------------------|----------------|------|------------|-----|
| CYCLE LENGTH=500 | CLASS INTERVAL WIDTH=10.0 |      |      |                           |                |      | SCHEDULE 2 |     |
|                  | OVERALL CORRECTED RUNNING |      |      | OVERALL CORRECTED RUNNING |                |      |            |     |
| INT              | RATE                      | RATE | RATE | INT                       | RATE           | RATE | RATE       |     |
| 1                | 1.3                       | 1.6  | 1.8  | 26                        | 2.0            | 3.1  | 4.0        |     |
| 2                | 1.6                       | 2.5  | 3.8  | 27                        | 2.0            | 3.1  | 3.9        |     |
| 3                | 1.6                       | 2.6  | 4.6  | 28                        | 1.7            | 2.9  | 4.0        |     |
| 4                | 1.9                       | 3.0  | 4.3  | 29                        | 1.7            | 2.9  | 4.2        |     |
| 5                | 1.7                       | 2.9  | 4.4  | 30                        | 2.1            | 3.4  | 4.6        |     |
| 6                | 1.8                       | 2.7  | 3.9  | 31                        | 1.7            | 2.8  | 3.9        |     |
| 7                | 1.7                       | 2.6  | 4.4  | 32                        | 2.1            | 3.1  | 3.8        |     |
| 8                | 1.8                       | 2.8  | 4.1  | 33                        | 1.9            | 3.1  | 4.3        |     |
| 9                | 1.8                       | 2.9  | 4.0  | 34                        | 1.9            | 3.1  | 4.2        |     |
| 10               | 1.7                       | 2.9  | 4.3  | 35                        | 2.1            | 3.2  | 4.3        |     |
| -----            |                           |      |      |                           |                |      |            |     |
| 11               | 1.7                       | 2.7  | 3.9  | 36                        | 1.9            | 3.1  | 4.0        |     |
| 12               | 1.7                       | 2.9  | 4.3  | 37                        | 1.9            | 3.0  | 4.1        |     |
| 13               | 2.2                       | 3.3  | 4.3  | 38                        | 2.1            | 3.2  | 4.0        |     |
| 14               | 2.0                       | 3.1  | 4.3  | 39                        | 2.1            | 3.2  | 4.1        |     |
| 15               | 1.8                       | 3.0  | 4.2  | 40                        | 1.8            | 3.0  | 4.0        |     |
| 16               | 1.8                       | 3.0  | 4.4  | 41                        | 2.1            | 3.3  | 4.3        |     |
| 17               | 1.7                       | 2.9  | 4.2  | 42                        | 1.6            | 2.7  | 3.6        |     |
| 18               | 2.0                       | 3.1  | 3.8  | 43                        | 2.0            | 3.0  | 3.8        |     |
| 19               | 1.8                       | 2.9  | 4.0  | 44                        | 2.3            | 3.4  | 4.1        |     |
| 20               | 1.5                       | 2.7  | 4.0  | 45                        | 2.0            | 3.2  | 4.1        |     |
| 21               | 1.6                       | 2.8  | 4.0  | 46                        | 1.8            | 3.1  | 4.2        |     |
| 22               | 1.9                       | 3.0  | 4.1  | 47                        | 1.8            | 3.0  | 4.2        |     |
| 23               | 1.8                       | 2.9  | 4.0  | 48                        | 2.0            | 3.1  | 3.9        |     |
| 24               | 2.0                       | 3.0  | 4.0  | 49                        | 2.0            | 3.3  | 4.6        |     |
| 25               | 1.9                       | 3.2  | 4.3  | 50                        | 1.9            | 3.0  | 3.8        |     |
|                  |                           |      |      |                           | TAU-DEE ONLY   | 1.7  | 2.6        | 3.8 |
|                  |                           |      |      |                           | TAU-DELTA ONLY | 1.9  | 3.0        | 4.1 |
|                  |                           |      |      |                           | TOTAL          | 1.9  | 3.0        | 4.0 |

## DISCUSSION

Before dealing with schedule and temporal discriminations as outlined in the Introduction, we might first consider a past account (Skinner, 1938) of how ratio schedules maintain relatively fixed response rates, and why these rates are higher than those produced by comparable interval schedules (that is, schedules equated for  $R/S^R$  or  $IS^R_T$ ). We do so because of the present finding that running rates do vary with  $p(S^R)$  in a  $\tau$  schedule, in contrast with studies which had found general insensitivity of running rate to the parameters of ratio schedules. Despite the apparent conflict, one line of analysis suggests a commonality between the variables involved here and in several types of discrimination.

That early account appealed to the differential reinforcement of long IRTs (inter-response times: temporal separations of responses containing no  $S^R$ s) by interval schedules, and the differential reinforcement of short IRTs by ratio schedules<sup>3</sup>. It developed from consideration of a type of temporal discrimination, namely, discrimination of the time between responses. The argument that long IRTs are differentially reinforced by an interval schedule reduces effectively to recognition of the positive slope of the function relating probability of reinforcement and length of IRT,  $p(S^R) = f(IRT)$ . For example, consider RI schedules, the parameters of which are the length of a free-running time cycle, called  $T$ , and the  $p(S^R)$  for the first response in each  $T$ , called  $p$ . (FI schedules are that subset of RI schedules having  $p = 1.00$ .) Since the proportion of

IRTs which end with the first response in any free-running time cycle of fixed period may be expected to be a linearly increasing function of IRT length when responses are irregularly spaced in time (Anger, 1956), the proportion of responses reinforced under an RI or FI schedule should increase linearly with preceding IRT length up to T sec, where it should reach the value of  $p$ . This relationship has been confirmed empirically (Vickery, unpublished). For VI schedules, the shape of the function relating  $p(S^R)$  to length of the preceding IRT depends on the series of inter-reinforcement intervals used, but it always has an overall positive slope, reaching its maximum (unity) when an IRT is longer than the longest interval in the series. Catania and Reynolds (1968) investigated a number of forms this VI function may take, and were able to demonstrate control over local changes in response rate by manipulating the shape of the function.

The first investigation of differential reinforcement of long IRTs leading to low response rates under interval schedules used the procedure of adding a response-pause requirement to a periodic reinforcement schedule, what might now be called conjunctive FI-DRL (Skinner, 1938). Adding the pause requirement (reinforcement followed only long IRTs) lowered rates, and removing this requirement reinstated higher rates. Anger (1956) has replicated this finding on a VI baseline, while Farmer and Schoenfeld (1964<sup>b</sup>) have established that the response rate obtained by this procedure is inversely related to the length of the required pause. The effectiveness of the DRL procedure alone was established by Wilson and Keller (1953), who suggested that the reinforcement of some chain of unrecorded responses mediating the

pause requirement was responsible for the low response rates obtained. The demonstration that differential reinforcement of long IRTs can produce low rates does not prove that this contingency is in fact the one primarily controlling rates under interval schedules, but it does provide empirical grounds for investigating the matter further.

Anger (1956) has investigated the relationship between the theoretical  $p(S^R) = f(\text{IRT})$  curve and obtained frequency distributions of IRTs for arithmetic VI. He found that the shape of the distribution of IRTs (high positive skew) is not congruent with the positive slope of the theoretical  $p(S^R) = f(\text{IRT})$  curve. The preponderance of short IRTs despite differential reinforcement of long, Anger attributed to two factors: (1) the subject has fewer "opportunities" to make long IRTs and (2) the distribution of reinforced IRTs (which Anger presented as "reinforcements per hour") is positively skewed. Although he saw how the first factor might be used to argue for an "inherent difference in the reinforcement requirements of short and long IRTs", Anger rejected this possibility on theoretical grounds which are not reviewed here, although an empirical approach to this question is discussed below. The second factor can serve only as a weak explanation for the observed discrepancy between predicted and obtained IRT distributions: the distribution of reinforced IRTs is compromised as an independent variable, being the product of the theoretical  $p(S^R) = f(\text{IRT})$  and of the obtained IRT frequency distribution. Anger did suggest that the two frequency distributions interact "circularly," but had to posit that his animals "missed the dip" in the left tail of the distribution of reinforced IRTs and reacted to the major (decreasing) trend of the

curve, in order to justify the difference in location of the modes of the two curves. Anger's attempt to increase response rate by reinforcing only short IRTs in conjunction with the VI schedule failed, possibly because the IRT cut-off (28 sec) was too long to make contact with the animal's behavior, and possibly because the sequence of a long IRT (meeting the VI part of the schedule) followed by a short one (meeting the IRT requirement) was often reinforced, thus maintaining the strength of long IRTs.

Malott and Cumming (1964) investigated a number of schedules of IRT reinforcement, including one in which IRTs of different lengths were reinforced at different probabilities. They found that short IRTs may predominate even when their  $p(S^R)$  is much lower than that of longer IRTs, supporting the possibility (mentioned by Anger) that short IRTs are more susceptible to reinforcement. This observation is not conclusive, however, because their data show an effective decrease in mean  $IS^R_T$  with the preponderance of short IRTs<sup>4</sup>. Other work, discussed below, suggests that analysis of a schedule in terms of the interactions between  $IS^R_T$ s and responding may provide greater generality and flexibility in accounting for behavior than differential reinforcement of IRTs. In cases such as this, where both ways of handling the data are adequate, it may be better to choose the one with greater generality.

A novel attempt to study differential reinforcement of long IRTs under interval schedules was made by Millenson (196<sup>6</sup>~~8~~), who made explicit use of the idea that a mediating chain of behavior is maintained by reinforcements following long IRTs. In this respect, the procedure of Mechner and Berryman (1956) may be thought of as a response-defined

analogue to a DRL schedule: a certain number of responses,  $R_1$ , must be made on one manipulandum in order for a response on another manipulandum,  $R_2$ , to be reinforced, and a premature  $R_2$  resets the accumulated count of  $R_1$ . The frequency distribution of  $R_1$  run lengths obtained under this procedure is similar in form to the IRT distributions obtained for DRL schedules. Millenson varied this procedure so that each  $R_1$  had a constant probability, which we shall call  $p_c$ , of making  $S^R$  available for  $R_2$ . Millenson considered  $p_c$  analogous to the increase in  $p(S^R)$  accorded to increasing IRT lengths by interval schedules<sup>5</sup>. Under this procedure, short runs of  $R_1$  were most frequent, and the frequency distribution of  $R_1$  run lengths shifted toward smaller values with decreasing  $p_c$ . This finding is inconsistent with the analogous procedure for RI schedules, where decreasing the value of  $p$  decreases the response rate (Farmer, 1963; Martin, 1970), suggesting that performance maintained by interval schedules cannot be accounted for simply by appeal to the differential reinforcement of  $K$  chains mediating long IRTs.

Skinner's original argument for the differential reinforcement of short IRTs under ratio contingencies was that a group or cluster of responses was most likely to contain a response meeting a ratio requirement, so that responses closely spaced in time would tend to be reinforced most often (Skinner, 1938). One way of comparing this effect with the differential reinforcement of long IRTs by interval schedules would be to add a ratio requirement to an interval schedule. This procedure has been experimentally tried, but has yielded mixed results. Killeen (1969) found that a small ratio linked to VI

(tandem VI-FR) increased response rate in proportion to the ratio size, while mean  $IS^R_T$  remained constant (the VI was timed essentially by the clock). Herrnstein (1970) reports that adding a ratio requirement to FI (conjunctive FI-FR) increased  $IS^R_T$  and decreased response rate in proportion to the ratio size. Killeen concluded from his study that ratio contingencies are correlated with high response rates not because they selectively reinforce short IRTs, but because they interfere with the selective reinforcement of long IRTs that obtains on interval schedules, and that ratio schedules reinforce only Rs while interval schedules reinforce any behavior that precedes a response and takes time, what we are calling  $R$ . These two studies in conjunction with those cited above suggest (1) that differential reinforcement of IRT length alone is not adequate for dealing with the response rates maintained by either ratio or interval schedules, and (2) that mean  $IS^R_T$  is often negatively correlated with mean IRT length.

One other way of comparing the contingencies operating under ratio and interval schedules comes from the  $\underline{t}$  system. Studies by Hearst (1958) and Clark (1959) have demonstrated that the behaviors traditionally associated with ratio or interval schedules could both be produced within the  $\underline{t}$  system, where they are related by the parameter  $\bar{T}$ , or  $\underline{t}^D / (\underline{t}^D + \underline{t}^A)^6$ . Cycle lengths from 30 sec to 10 min were studied using similar procedures, and response rates typical of interval schedules were obtained when  $\bar{T}$  was large. As  $\bar{T}$  decreased below values of the order 0.01 - 0.05, rates increased abruptly, and responding took on patterns common to ratio schedules. Both schedules noted the increase in response rate at about that value of  $\bar{T}$  for which  $\underline{t}^D$  was so short

relative to the ongoing response rate that subjects sometimes failed to place a response in each  $t^D$ , and so started to "miss" reinforcements. There are two functions relating reinforcements to IRT length for this type of  $\underline{t}$  schedule. One is essentially the same  $p(S^R) = f(\text{IRT})$  mentioned in connection with RI and VI schedules above; under Hearst and Clark's procedure,  $p(S^R)$  (the proportion of IRTs which will terminate with the first response in a  $t^D$ ) increases linearly to the value of  $\bar{T}$  as IRT length increases to a length of  $t^D$  sec. The second function, which we shall designate  $\pi(S^R) = f(\text{IRT})$ , may be determined by placing a ceiling of 1.00 on the statistic  $\pi$ , which is given by  $\bar{T} \times (\text{IRT}/\underline{t})$ . The term  $\text{IRT}/\underline{t}$  gives the expected number of responses per  $\underline{t}$  cycle, and  $\pi$  is therefore the expected number of responses per  $t^D$ . The ceiling of 1.00 is imposed by the schedule restriction that only the first response in each  $t^D$  is ever reinforced. The value of  $\pi$ , then, is the proportion of  $\underline{t}$  cycles which may be expected to contain an  $S^R$ , and  $1/\pi$  yields the expected (mean)  $IS^R_T$  in  $\underline{t}$ -cycle units. The function  $\pi(S^R) = f(\text{IRT})$  has  $\bar{T}$  as a parameter:  $\pi(S^R)$  is always 1.00 for  $\text{IRT} \leq t^D$ , and then drops off for  $\text{IRT} > t^D$ , steeply for small  $\bar{T}$ , more gradually for large  $\bar{T}$ , but always with an asymptote of zero. This function indicates that  $IS^R_T$ s will get shorter for shorter IRTs down to a length of  $t^D$  sec. The effect of  $p(S^R)$  and  $\pi(S^R)$  together is to reinforce larger proportions of responses as IRTs increase to a length of  $t^D$  and to shorten  $IS^R_T$ s as mean IRT decreases to the value of  $t^D$ . An "optimal" rate of responding equal to  $1/t^D$  can thus minimize both  $R/S^R$  and  $IS^R_T$ . Empirically, rates for all subjects were greater than  $1/t^D$  for large values of  $\bar{T}$ , and increased sharply (approximating  $1/t^D$ ) at

the value of  $\bar{T}$  where the increasing  $1/t^D$  and relatively flat rate functions intersect. This corresponds to the original observation of both Hearst and Clark that rates increased when the subjects first started to "miss" reinforcements.

Thus, the  $p(S^R)$  and  $\pi(S^R)$  functions summarize the ways in which a  $\underline{t}$  schedule interacts with an ongoing stream of behavior to determine  $R/S^R$  and  $IS^R_T$  values; these interactions in turn could be used to predict the point at which changes in  $\bar{T}$  would be expected to induce changes in the behavior stream.

The interactions between  $R/S^R$  or  $IS^R_T$  and a stream of behavior are more complex under a  $\tau$  schedule than under a  $\underline{t}$  schedule because changes in  $p(S^R)$  with time alter the  $p(S^R)$  and  $\pi(S^R)$  functions described above. With  $\tau$  schedules, the zero-to- $\bar{T}$  range of the  $p(S^R)$  function is reduced to  $p(S^R|R\cdot\tau^\Delta)$ -to- $[\bar{\tau} \times p(S^R|R\cdot\tau^D) + (1 - \bar{\tau}) \times p(S^R|R\cdot\tau^\Delta)]$ , although the domain of the increasing part of the function remains zero-to- $\tau^D$ . The  $\pi$  statistic ( $S^R$ s per  $\tau$  cycle) is influenced by the possibility of multiple  $S^R$ s in both  $\tau^D$  and  $\tau^\Delta$ , and by the effects of  $S^R$  density on the amount of time available for responding during  $\tau^D$  and  $\tau^\Delta$ . For example, in the present experimental procedure where  $R$ s are "locked out" for 2 sec during each  $S^R$ , the amount of time actually available for responding in a time interval,  $T_x$ , is equal to  $T_x/(2RP + 1)$ , where  $R$  is response rate and  $P$  is the  $p(S^R)$  applying to each response in the interval. When rates in  $\tau^D$  and  $\tau^\Delta$  are different, the time actually available for responding must be calculated separately for each. The  $\pi$  statistic becomes  $(P_D)(T_D)(R_D) + (P_\Delta)(T_\Delta)(R_\Delta)$ , where  $P_D$  is  $p(S^R|R\cdot\tau^D)$ ,  $T_D$  is  $\tau^D$  minus  $S^R$  time as given above,  $R_D$  is the

response rate in  $\tau^D$ , and the other three terms are the comparable values for  $\tau^A$ . The ceiling of the  $\pi(S^R)$  function is not an independent variable as it was for a  $\underline{t}$  schedule because it depends in part on response rate, but the asymptote of this function is still zero for very low rates. The reciprocal of  $\pi$  is still the mean  $IS^R_T$  in  $\tau$ -cycle units. There is no "optimal" rate for a  $\tau$  schedule; all the effects of response rate on  $IS^R_T$  and  $R/S^R$  are qualified by the relative values of schedule parameters. For example, it is always the case that high rates in both  $\tau^D$  and  $\tau^A$  will produce the shortest  $IS^R_T$ s, and it is generally the case that rates in  $\tau^D$  contribute more to determining mean  $IS^R_T$  than rates in  $\tau^A$ , but there are limiting cases where this may not hold: (1) when  $p(S^R|R \cdot \tau^A)$  is zero, rate in  $\tau^A$  has no effect on  $IS^R_T$ , but (2) when  $p(S^R|R \cdot \tau^D) = p(S^R|R \cdot \tau^A)$ , rate in  $\tau^A$  has  $\tau^A/\tau^D$  as much effect on  $IS^R_T$  as rate in  $\tau^D$ . Furthermore, high rates in  $\tau^D$  and low rates in  $\tau^A$  generally both decrease mean  $R/S^R$ , but there are three limiting parameter values where  $R/S^R$  is unaffected by response rate: (1)  $p(S^R|R \cdot \tau^D) = p(S^R|R \cdot \tau^A)$ , (2)  $\bar{\tau} = 1.00$ , and (3)  $\bar{\tau} = 0.00$ .

These considerations suggest that the parameters of a  $\tau$  schedule may be set to favor differences in response rate, or not, as desired, and the present study confirms this. Morse (1966) has mentioned some of the experimental conditions which have and have not produced differential responding to reinforcement schedule parameters; by dealing with this topic parametrically, the  $\tau$  system can be used to study the relationships among the variables thought to be important in this type of behavioral control and at the same time integrate this topic with a corpus of behavior theory.

The interactions among  $IS^R_T$ ,  $R/S^R$ , and a stream of behavior not only suggest the ways in which ratio and interval schedules control response rate, but also summarize the operation of "differentiating" schedules as well. To the extent that a subject can influence  $IS^R_T$  and  $R/S^R$  by his response patterns, a schedule may be thought of as differentially reinforcing particular patterns, and  $IS^R_T$  or  $R/S^R$  (or both) serves as a dependent variable. Of course, to the extent that their values are fixed by the experimenter, the distributions of  $IS^R_T$  and  $R/S^R$  are independent variables whose effects on a behavior stream are to be measured. Traditional count schedules specify an  $R/S^R$  distribution exactly, while non-contingent and Pavlovian schedules do the same for  $IS^R_T$ s; all other stimulus schedules mix both  $IS^R_T$  and  $R/S^R$  as both independent and dependent variables, but to varying extents. The "differential reinforcement" label has been applied to those schedules where response rate controls both  $IS^R_T$  and  $R/S^R$  (DRL, DRH), but even here certain parameters of their distributions are determined by schedule parameters, an example being the dependence of the minimum of the  $IS^R_T$  distribution on the value of the DRL schedule (Farmer and Schoenfeld, 1964<sup>a</sup>). Traditional interval schedules also specify minimum  $IS^R_T$ s, but the relationship between rate and  $IS^R_T$  is not so strictly defined as for differentiating schedules, although  $R/S^R$  is a dependent variable for both interval and differentiating schedules. Part of the power of the  $\underline{t}$ - $\tau$  systems has proved to be their ability to shift  $IS^R_T$  and  $R/S^R$  along the continuum of independent and dependent variables. The way in which this is done for a  $\tau$  schedule has been suggested above; an example from the  $\underline{t}$  system is RI, where

the  $IS^R_T$  distribution is predictable for a wide range of response rates when cycle length is long, but becomes increasingly sensitive to response rate as  $T$  shortens. When  $T$  approaches zero,  $RR$  obtains, and  $R/S^R$  is specified exactly by the value of  $p$ , but  $IS^R_T$  becomes constrained only by the maximum rate at which responses can be emitted.

Because  $IS^R_T$  and  $R/S^R$  are so pervasive in the specification of reinforcement schedules, it is natural that they have been the focus of attention in studies dealing with schedule discrimination. Although  $IS^R_T$  and  $R/S^R$  almost always covary, attempts have been made to establish discriminations based on one or the other of them separately, including discriminations (1) among different  $IS^R_T$ s, (2) among different  $R/S^R$ s, and (3) between  $IS^R_T$ s and  $R/S^R$ s. Various paradigms have been used, including the traditional stimulus discrimination procedure (in this case mixed and multiple schedules would both be appropriate), a schedule-as-conditional-stimulus paradigm, and more general operant procedures where rate as a function of mean  $IS^R_T$  or  $R/S^R$  is determined across sessions or across groups of subjects. The stimulus discrimination paradigm has been used to show differential responding to  $IS^R_T$ s by a number of workers, perhaps most systematically by Cole (1968), who varied the cycle length of RI schedules during components of a multiple schedule. This paradigm has also been used in studies showing discriminative responding to  $IS^R_T$  vs  $R/S^R$ , as in the mixed and multiple FI-FR schedules of Ferster and Skinner (1957). The present study used features of both mixed and multiple schedules in establishing a functional relationship between running rate and  $R/S^R$ . The conditional discrimination (matching) procedure has been used to demonstrate that

size of an FR and length of an FI may serve as effective discriminative stimuli for a choice response (Rilling & McDiarmid, 1965; Rilling, 1967). Using other procedures, Mechner (1958) demonstrated that number of responses emitted by a subject may serve as a controlling stimulus for subsequent behavior, while Reynolds and Catania (1962) <sup>and Reynolds (1966) have</sup> demonstrated that length of an interval may control subsequent response rate.

Rilling concluded from the types of errors obtained and from the effects of a light intruded during the "conditional schedule" under his procedure that the controlling stimulus for both the ratio and the interval schedule was the number of responses actually emitted. Another comparison of the controlling effects of  $R/S^R$  and  $IS^R_T$  on FI and FR was made by Neuringer and Schneider (1968), who controlled pigeons' response rate by darkening the chamber after responses. They concluded that  $IS^R_T$ , not  $R/S^R$ , actually controls response rate for both schedules. Because of the experimental procedural differences, the conclusion drawn by Rilling does not necessarily contradict Neuringer and Schneider's. Taken together, these studies reinforce the argument that any relationship among behavior,  $IS^R_T$ , and  $R/S^R$  may be obtained by appropriate scheduling of stimuli.

We now turn to the type of temporal discrimination mentioned in the Introduction, the second of Skinner's two types, "temporal discrimination from the preceding reinforcement." This type occurs during periodic reconditioning (FI) and arises "from the presentation of food and its ingestion plus the lapse of time and therefore is of the sort occurring in Pavlov's 'trace reflex'" (Skinner, 1938, page 271). The response pattern which characterizes this sort of temporal dis-

crimination is a break in responding immediately after  $S^R$  followed by a shift to a steady running rate terminating with the next  $S^R$ . This "break-run" pattern has been noted by several researchers (Ferster & Skinner, 1957; Cumming & Schoenfeld, 1961), and a technique has been developed by Schneider (1969) for summarizing cumulative records from FI intervals, showing this pattern despite variability in the length of  $PS^R$ s. All the variables responsible for the development of this pattern of responding, as opposed to the more commonly reported FI "scallop" (Keller & Schoenfeld, 1950; Ferster & Skinner, 1957), have not yet been identified, although the joint values of  $T$  and  $\bar{T}$ , length of exposure to the schedule (Cumming & Schoenfeld, 1961), and interval length (Skinner, 1938; Schneider, 1969) have been suggested. The same pattern has been reported after comparatively short exposure for tandem FRI-FI schedules (Shull, 1970). Fixed-interval is not the only interval schedule to maintain temporal discrimination of this nature. Harzem (who also reviews much of the temporal discrimination literature in his chapter) has reported that the period of low rate immediately following  $S^R$  increases in duration within sessions in which a series of progressively longer  $IS^R$ s is programmed (Harzem, 1969). Random interval schedules produce mean  $PS^R$ s which are a function of the shortest occurring  $IS^R$  (Farmer, 1963), and a series of experiments by Catania and Reynolds (1968) has shown that manipulation of reinforcement likelihood at different times after  $S^R$  can produce corresponding changes in local rates of responding for VI schedules. The present study indicated that running rate decreases with time since  $S^R$  under  $\tau$  schedules, and some unpublished data (Cole & Vickery)

suggest that this finding holds for RI schedules as well. Whenever a discrimination of this type is operating, any manipulation of the  $IS^R T$  distribution by the experimenter may be expected to produce interruption of the subject's behavior stream by the  $S^R$  at different points along this rate-as-a-function-of-time-since- $S^R$  curve, thus affecting recorded rates, possibly despite constancy in the response pattern of the behavior stream. Effects of this sort have been reported by Cumming and Schoenfeld (1963), who found that  $\tau$ -cycle length interacted with  $S^R$  and  $PS^R P$  durations to affect  $R/S^R$  measures as in the present study, and by Staddon (1967), who observed that corrected rates were higher during VI3' components than VII' components of a mixed schedule because of constant  $PS^R P$ s and constant running rates. It is probably safe to say that all schedules maintain some temporal discrimination from the preceding  $S^R$  in the sense that response rate changes with time since  $S^R$ ; the form and regularity of the discrimination depends on the nature of the schedule employed.

DRL schedules are unusual in that the subject's behavior determines whether a discrimination of time since  $S^R$  or of time since the last R is required. So long as  $PS^R P$ s are longer than the DRL requirement, timing is from the last  $S^R$ ; otherwise the length of IRTs determines when reinforcement occurs. A number of investigators have provided evidence of greater timing accuracy following  $S^R$ s than following Rs under DRL (Sidman, 1956; Farmer & Schoenfeld, 1964a; Ferraro, Schoenfeld, & Snapper, 1965; Carter & Bruno, 1968).

Like temporal discrimination, the topic of stimulus discrimination and stimulus control has been one of major research interest (see

Mostofsky, 1965 and Terrace, 1966 for current treatment of this topic). However, the discriminative (or any other) function of a stimulus may be reduced to matters of stimulus scheduling in much the same way as schedule and temporal discriminations have been. The traditional aversive-neutral-appetitive classifications of stimuli, for example, have had to be given up with the demonstrations that the same physical stimulus may serve any of the three functions depending on the subject's conditioning history, the parametric values of the schedule by which the stimulus is intruded into the subject's stream of behavior, and the locus or mode of application of the intruded stimulus (Schoenfeld, 1969). Thus, there are now numerous reported cases of electric grid-shock maintaining traditional "avoidance" behavior at one time and typical "appetitive" behavior at another time for a single subject (McKearney, 1968, 1969; Stretch, Orloff, & Dalrymple, 1968), and a complementary pair of studies now in progress use the same schedule to maintain "avoidance" responding with water as the stimulus and "appetitive" responding with grid-shock as the stimulus (Sussman, Blaustein). Furthermore, a single neutral stimulus,  $S^N$ , may exhibit either traditional  $S^D$  or  $S^A$  "functions" depending only on the value of a single parameter, phase ( $\phi$ ), relating the schedules by which  $S^N$ s and  $S^R$ s are intruded into the stream of behavior (Martin, 1971; Farmer & Schoenfeld, 1966a&b). Complementing this procedure is that used by Harris (1969), in which  $S^R$  served as  $S^D$ ,  $S^N$ , or  $S^A$  depending on the relative lengths of  $R$  required by two concurrent schedules of  $S^R$  intrusion.

This amalgamation of stimulus "functions" is not new, of course, as indicated by the suggestion of Dinsmoor in 1950 that "the previous

distinction between two types of stimulus [discriminative, reinforcing] appears to be reduced to a distinction between two categories of temporal schedule for the administration of the stimulus. The distinction is relevant chiefly to the determination of the distribution of the stimulus effects among the variety of responses in the organism's repertoire." (Dinsmoor, 1950, page 471)<sup>7</sup>

Because it is possible to reduce definitions of stimulus, temporal, and schedule discriminations to the specification of stimulus schedules and the choice of dependent variable, a wide range of procedures which have heretofore invoked these types of discrimination in their exposition may profitably be dealt with in terms of real independent variables (the schedule and the values taken by its formal parameters), dependent variables (the content of the observed behavior stream), and the interactions between the two (such as  $IS^R_T$  and  $R/S^R$  distributions). In the present study, it may be convenient to consider milk presentation an  $S^R$ , but this same stimulus event is also the basis of the schedule discrimination between  $\tau^D$  and  $\tau^A$  and at the same time is the origin of a temporal discrimination. With the  $\tau$  schedule providing the independent variables and the behavior stream the dependent variables, an experimenter may systematically explore a range of lawful behavioral relationships, the scope of which is limited only by the extent of the experimenter's own interest.

## FOOTNOTES

1. See Schoenfeld, Cole, et al. (in preparation) for a more complete explanation of this concept and of the importance of probability variables for generating response "count" within the  $t-\tau$  systems.
2. The convention of excluding reinforced responses from the rate calculations was adopted here (else "infinite" running rates whenever the first response after  $S^R$  was reinforced), producing marked dips in rate at intervals of  $\tau^{\Delta}$  sec after  $S^R$ .
3. In this work, "reinforcement of an IRT" refers to the procedure of intruding an  $S^R$  into a stream of behavior immediately following the occurrence of the chain,  $R \rightarrow \bar{K} \rightarrow R$ , where  $\bar{K}$  denotes behavior other than the response,  $R$ , being recorded. When the probability of this stimulus intrusion is conditional upon the length of the  $\bar{K}$  link of the chain, the terms "differential reinforcement of a long IRT" and "differential reinforcement of a short IRT" are used.
4. For example, when  $p(S^R)$  for IRTs between 5 and 15 sec was 0.4, and  $p(S^R)$  for IRTs longer than 15 sec was 1.0, the mean  $IS^R_T$  for IRTs 5 sec long was  $5.0 \div 0.4 = 12.5$  sec, which is less than the 15 sec  $IS^R_T$  for each long IRT.
5. In this analogue,  $p(S^R)$  for  $R_2$  (over a collection of trials) would be  $p_n = p_{n-1} + p_c \times (1 - p_{n-1})$ , where  $p_n$  is the  $p(S^R)$  for  $R_2$  given  $n$   $R_1$ s emitted since the last  $R_2$ . The overall slope and degree of negative acceleration of this function increases with increasing  $p_c$ . To decrease  $p_c$  should be analogous to differential reinforcement of

longer chains of  $\bar{K}$  mediating IRTs.

6. The parameters of the  $\underline{t}$  system are defined the same way as their counterparts in the  $\tau$  system. The only procedural difference between the two systems is that the only response ever reinforced under the  $\underline{t}$  system is the first in each  $t^D$ .

7. The concept of  $\bar{K}$ , the unrecorded part of a behavior stream, is implied here. This  $\bar{K}$  theme has been important to much of the research dealing with stimulus "functions" cited above, and would also provide an extension of the  $\tau$  system to non-contingent schedules of stimulus intrusion (Schoenfeld, Cole, et al., in preparation). The  $\bar{K}$  topic is developed by Schoenfeld and Farmer (1970), while its relevance to non-contingent schedules is elaborated in Schoenfeld and Cole (1970).

## APPENDIX A

Tables 7, 8, 9, 10, and 11. Running rate as a function of time since reinforcement for schedules 0, 1, and 2 at all five experimental points for Groups A, B, C, D, and X, respectively.

Table 7

Running rate as a function of time since reinforcement for three  $\tau$  schedules at five experimental points for Group A. Time since reinforcement in seconds; running rates in responses per second.

| Time        | Point 1 |     |     | Point 2 |     |     | Point 3 |     |     | Point 4 |     |     | Point 5 |     |     |
|-------------|---------|-----|-----|---------|-----|-----|---------|-----|-----|---------|-----|-----|---------|-----|-----|
| Since $S^R$ | 0       | 1   | 2   | 0       | 1   | 2   | 0       | 1   | 2   | 0       | 1   | 2   | 0       | 1   | 2   |
| 1           | 3.8     | 4.0 | 4.3 | 4.1     | 4.1 | 4.4 | 2.7     | 3.5 | 4.0 | 3.0     | 2.8 | 3.8 | 3.8     | 3.9 | 4.6 |
| 2           | 3.7     | 3.9 | 3.9 | 3.4     | 3.6 | 4.1 | 2.5     | 3.0 | 3.7 | 2.6     | 2.6 | 3.2 | 3.2     | 3.2 | 3.5 |
| 3           | 3.8     | 4.2 | 4.0 | 3.6     | 3.9 | 3.8 | 2.9     | 3.5 | 4.0 | 2.9     | 3.1 | 3.7 | 3.5     | 3.6 | 3.8 |
| 4           | 3.7     | 4.0 | 3.7 | 3.3     | 3.7 | 3.8 | 3.3     | 3.7 | 4.0 | 3.4     | 3.5 | 3.9 | 3.5     | 3.5 | 3.8 |
| 5           | 3.5     | 3.6 | 3.4 | 2.8     | 3.6 | 3.6 | 3.2     | 3.4 | 3.4 | 3.3     | 3.4 | 3.7 | 3.1     | 3.5 | 4.0 |
| 6           | 3.0     | 3.3 | 3.3 | 2.5     | 3.1 | 3.4 | 2.5     | 3.2 | 3.0 | 2.6     | 3.3 | 3.4 | 3.3     | 3.7 | 3.7 |
| 7           | 3.0     | 3.2 | 3.0 | 2.4     | 3.0 | 3.2 | 2.2     | 2.9 | 2.8 | 2.5     | 3.1 | 3.1 | 3.1     | 3.6 | 3.2 |
| 8           | 2.9     | 3.1 | 3.0 | 2.2     | 3.1 | 2.9 | 1.9     | 3.0 | 2.6 | 2.2     | 2.8 | 2.8 | 2.5     | 3.4 | 2.8 |
| 9           | 2.9     | 2.9 | 2.7 | 2.0     | 2.9 | 2.9 | 1.9     | 2.8 | 2.5 | 2.0     | 2.9 | 2.5 | 2.1     | 3.3 | 2.7 |
| 10          | 2.8     | 2.9 | 2.8 | 2.2     | 2.9 | 2.8 | 1.8     | 2.6 | 2.3 | 1.8     | 2.7 | 2.4 | 1.9     | 3.1 | 2.3 |
| 11          | 2.8     | 2.8 | 2.9 | 2.0     | 3.0 | 2.7 | 1.5     | 2.7 | 2.1 | 1.6     | 2.8 | 2.3 | 1.5     | 3.2 | 2.1 |
| 12          | 2.4     | 2.7 | 2.8 | 1.8     | 2.5 | 2.4 | 1.4     | 2.4 | 2.1 | 1.3     | 2.7 | 2.2 | 1.3     | 3.1 | 2.2 |
| 13          | 2.2     | 2.9 | 2.8 | 1.8     | 2.6 | 2.6 | 1.6     | 2.6 | 2.0 | 1.1     | 2.7 | 2.4 | 1.2     | 3.0 | 2.4 |
| 14          | 2.2     | 2.4 | 2.4 | 1.6     | 2.5 | 2.7 | 1.5     | 2.7 | 2.2 | 1.2     | 2.6 | 2.1 | 1.2     | 3.0 | 2.4 |
| 15          | 2.1     | 2.4 | 2.1 | 1.8     | 2.6 | 2.4 | 1.3     | 2.6 | 2.6 | 1.1     | 2.7 | 2.0 | 1.0     | 2.8 | 2.1 |
| 16          | 1.8     | 2.5 | 1.9 | 1.8     | 2.6 | 2.9 | 1.3     | 2.7 | 2.4 | 1.3     | 2.6 | 1.9 | 0.9     | 2.6 | 2.5 |
| 17          | 1.6     | 2.5 | 2.6 | 1.8     | 2.6 | 2.6 | 1.3     | 2.6 | 2.8 | 1.0     | 2.5 | 2.1 | 1.0     | 2.7 | 1.7 |
| 18          | 1.6     | 2.0 | 2.4 | 1.9     | 2.7 | 2.4 | 0.9     | 2.5 | 2.3 | 1.1     | 2.7 | 2.0 | 1.1     | 2.6 | 1.8 |
| 19          | 1.7     | 2.1 | 1.8 | 1.6     | 2.6 | 2.1 | 1.3     | 2.5 | 2.1 | 1.1     | 2.4 | 2.2 | 1.1     | 2.7 | 2.3 |
| 20          | 1.4     | 2.2 | -   | 1.7     | 2.6 | 2.2 | 1.3     | 2.4 | 2.1 | 0.9     | 2.5 | 2.3 | 1.0     | 2.6 | 2.0 |

Table 7 (continued)

| Time<br>Since S <sup>R</sup> | Point 1 |     |   | Point 2 |     |     | Point 3 |     |     | Point 4 |     |     | Point 5 |     |     |
|------------------------------|---------|-----|---|---------|-----|-----|---------|-----|-----|---------|-----|-----|---------|-----|-----|
|                              | 0       | 1   | 2 | 0       | 1   | 2   | 0       | 1   | 2   | 0       | 1   | 2   | 0       | 1   | 2   |
| 21                           | 1.3     | 2.3 | - | 2.1     | 2.5 | 3.3 | 1.3     | 2.6 | 2.3 | 1.1     | 2.6 | 2.0 | 1.1     | 2.6 | 1.6 |
| 22                           | 0.9     | 2.1 | - | 1.6     | 2.7 | 4.0 | 1.3     | 2.6 | 2.2 | 0.9     | 2.4 | 2.0 | 0.8     | 2.6 | 1.5 |
| 23                           | 0.7     | 1.6 | - | 1.8     | 2.7 | 3.2 | 1.3     | 2.5 | 2.5 | 0.9     | 2.2 | 2.2 | 0.7     | 2.6 | 1.8 |
| 24                           | 0.8     | 1.8 | - | 1.8     | 2.6 | 3.4 | 1.3     | 2.1 | -   | 0.9     | 2.4 | 1.8 | 0.7     | 2.5 | 1.6 |
| 25                           | 1.1     | 1.6 | - | 2.1     | 2.6 | 2.2 | 1.3     | 2.3 | -   | 1.1     | 2.4 | 2.2 | 0.7     | 2.8 | -   |
| 26                           | 0.8     | 1.4 | - | 1.9     | 2.4 | -   | 1.4     | 2.4 | -   | 1.0     | 2.2 | 2.9 | 0.9     | 2.5 | -   |
| 27                           | 0.6     | 1.7 | - | 1.8     | 2.6 | -   | 1.3     | 2.6 | -   | 1.1     | 2.5 | -   | 0.9     | 2.7 | -   |
| 28                           | 0.7     | 1.4 | - | 1.7     | 2.6 | -   | 1.5     | 2.7 | -   | 1.0     | 2.3 | -   | 0.8     | 2.5 | -   |
| 29                           | 1.0     | 1.4 | - | 2.0     | 2.6 | -   | 1.3     | 2.5 | -   | 1.1     | 2.2 | -   | 0.9     | 2.6 | -   |
| 30                           | 0.8     | 1.2 | - | 1.6     | 2.4 | -   | 1.1     | 2.5 | -   | 1.1     | 2.6 | -   | 0.8     | 2.7 | -   |
| 31                           | 0.8     | 1.4 | - | 2.0     | 2.2 | -   | 1.2     | 2.4 | -   | 0.9     | 2.5 | -   | 1.1     | 2.6 | -   |
| 32                           | 1.0     | 1.4 | - | 1.8     | 2.2 | -   | 1.3     | 2.4 | -   | 1.0     | 2.3 | -   | 1.0     | 2.5 | -   |
| 33                           | -       | 1.6 | - | 1.9     | 2.1 | -   | 1.3     | 2.3 | -   | 1.0     | 2.3 | -   | 0.9     | 2.5 | -   |
| 34                           | -       | 1.6 | - | 1.6     | 2.2 | -   | 1.3     | 2.3 | -   | 1.0     | 2.3 | -   | 1.0     | 2.3 | -   |
| 35                           | -       | 1.4 | - | 1.8     | 2.4 | -   | 1.5     | 2.6 | -   | 1.3     | 2.3 | -   | 0.9     | 2.3 | -   |
| 36                           | -       | 1.2 | - | 1.8     | 2.4 | -   | 1.6     | 2.3 | -   | 1.2     | 2.3 | -   | 1.0     | 2.5 | -   |
| 37                           | -       | 1.5 | - | 2.0     | 2.5 | -   | 1.6     | 2.2 | -   | 1.3     | 2.6 | -   | 1.4     | 2.7 | -   |
| 38                           | -       | 1.4 | - | 2.3     | 2.5 | -   | 1.4     | 2.0 | -   | 1.3     | 2.1 | -   | 1.1     | 2.4 | -   |
| 39                           | -       | 1.2 | - | 2.0     | 2.6 | -   | 1.8     | 2.1 | -   | 1.5     | 2.4 | -   | 1.2     | 2.6 | -   |
| 40                           | -       | 1.0 | - | 2.2     | 2.3 | -   | 1.7     | 2.0 | -   | 1.5     | 2.5 | -   | 1.0     | 2.7 | -   |
| 41                           | -       | 1.2 | - | 2.1     | 2.4 | -   | 1.5     | 2.0 | -   | 1.7     | 2.5 | -   | 1.4     | 2.6 | -   |
| 42                           | -       | 1.2 | - | 2.1     | 2.3 | -   | 1.5     | 1.9 | -   | 1.8     | 2.5 | -   | 1.2     | 2.5 | -   |
| 43                           | -       | 1.1 | - | 2.0     | 2.2 | -   | 1.4     | 2.2 | -   | 1.6     | 2.1 | -   | 1.3     | 2.5 | -   |
| 44                           | -       | 1.0 | - | 1.9     | 2.1 | -   | 1.3     | 2.1 | -   | 1.7     | 2.1 | -   | 1.5     | 2.8 | -   |
| 45                           | -       | 1.2 | - | 1.8     | 2.0 | -   | 1.8     | 2.1 | -   | 1.5     | 2.2 | -   | 1.5     | 3.0 | -   |

Table 7 (continued)

| Time<br>Since S <sup>R</sup> | Point 1 |     |   | Point 2 |     |   | Point 3 |     |   | Point 4 |     |   | Point 5 |     |   |
|------------------------------|---------|-----|---|---------|-----|---|---------|-----|---|---------|-----|---|---------|-----|---|
|                              | 0       | 1   | 2 | 0       | 1   | 2 | 0       | 1   | 2 | 0       | 1   | 2 | 0       | 1   | 2 |
| 46                           | -       | 1.0 | - | 1.9     | 2.2 | - | 1.7     | 1.9 | - | 1.9     | 2.2 | - | 1.3     | 2.8 | - |
| 47                           | -       | 1.1 | - | 2.1     | 2.2 | - | 1.8     | 2.0 | - | 1.5     | 2.2 | - | 1.7     | 2.4 | - |
| 48                           | -       | 1.5 | - | 1.9     | 2.6 | - | 1.7     | 2.1 | - | 1.9     | 2.2 | - | 1.7     | 2.8 | - |
| 49                           | -       | 1.2 | - | 2.0     | 2.6 | - | 1.6     | 2.0 | - | 2.1     | 2.3 | - | 1.6     | 2.7 | - |
| 50                           | -       | 1.2 | - | 2.2     | 2.1 | - | 1.5     | 1.9 | - | 2.2     | 2.0 | - | 1.7     | 2.9 | - |

Table 8

Running rate as a function of time since reinforcement for three  $\tau$  schedules at five experimental points for Group B. Time since reinforcement in seconds; running rates in responses per second.

| Time<br>Since S <sup>R</sup> | Point 1 |     |     | Point 2 |     |     | Point 3 |     |     | Point 4 |     |     | Point 5 |     |     |
|------------------------------|---------|-----|-----|---------|-----|-----|---------|-----|-----|---------|-----|-----|---------|-----|-----|
|                              | 0       | 1   | 2   | 0       | 1   | 2   | 0       | 1   | 2   | 0       | 1   | 2   | 0       | 1   | 2   |
| 1                            | 4.3     | 4.2 | 4.3 | 4.0     | 4.1 | 4.4 | 3.9     | 4.0 | 4.3 | 3.1     | 3.0 | 3.6 | 4.2     | 4.3 | 5.2 |
| 2                            | 3.9     | 4.1 | 4.1 | 4.3     | 4.7 | 4.8 | 4.5     | 4.9 | 5.0 | 3.4     | 3.9 | 4.3 | 4.2     | 4.5 | 5.1 |
| 3                            | 3.5     | 3.7 | 3.6 | 4.0     | 4.3 | 4.2 | 4.4     | 4.9 | 4.4 | 3.8     | 4.1 | 4.6 | 4.4     | 4.4 | 4.5 |
| 4                            | 4.4     | 3.5 | 3.5 | 3.7     | 3.9 | 3.6 | 3.9     | 4.1 | 3.7 | 3.9     | 4.3 | 4.1 | 4.0     | 4.3 | 4.1 |
| 5                            | 3.1     | 3.3 | 3.5 | 3.2     | 3.3 | 3.2 | 3.4     | 3.8 | 3.4 | 3.5     | 4.0 | 3.7 | 3.6     | 4.0 | 3.8 |
| 6                            | 2.9     | 3.1 | 3.0 | 3.2     | 3.3 | 3.3 | 2.8     | 3.7 | 3.2 | 3.3     | 3.5 | 3.5 | 3.2     | 3.6 | 3.3 |
| 7                            | 3.0     | 3.1 | 2.8 | 2.9     | 3.5 | 3.3 | 2.6     | 3.5 | 3.2 | 2.9     | 3.4 | 3.2 | 2.7     | 3.5 | 3.5 |
| 8                            | 2.6     | 2.9 | 2.7 | 2.8     | 3.3 | 2.9 | 2.6     | 3.5 | 3.1 | 2.7     | 3.2 | 2.9 | 2.3     | 3.3 | 3.2 |
| 9                            | 2.5     | 3.0 | 2.6 | 2.6     | 3.0 | 3.1 | 2.3     | 3.4 | 2.8 | 2.0     | 3.0 | 3.1 | 1.9     | 3.3 | 3.3 |
| 10                           | 2.7     | 2.6 | 2.5 | 2.4     | 3.0 | 3.0 | 2.0     | 3.2 | 2.8 | 2.1     | 3.1 | 2.9 | 1.6     | 3.1 | 3.0 |
| 11                           | 2.6     | 2.9 | 2.7 | 2.4     | 3.0 | 2.7 | 1.8     | 3.3 | 2.9 | 1.9     | 3.1 | 2.8 | 1.2     | 3.0 | 3.2 |
| 12                           | 2.9     | 2.7 | 2.8 | 2.4     | 2.9 | 2.8 | 1.9     | 3.2 | 2.5 | 1.7     | 3.2 | 3.1 | 0.9     | 3.1 | 3.1 |
| 13                           | 3.0     | 2.7 | 2.6 | 1.8     | 2.9 | 2.9 | 1.6     | 3.1 | 3.0 | 1.3     | 2.9 | 2.8 | 0.9     | 3.0 | 2.6 |
| 14                           | 2.7     | 2.8 | 2.4 | 1.7     | 2.7 | 2.9 | 1.7     | 3.2 | 2.5 | 1.4     | 2.8 | 2.8 | 0.9     | 3.0 | 2.9 |
| 15                           | 2.6     | 2.9 | 2.4 | 1.7     | 2.7 | 2.2 | 1.4     | 3.1 | 2.2 | 1.4     | 2.8 | 3.0 | 0.7     | 2.8 | 2.8 |
| 16                           | 2.9     | 2.6 | 2.1 | 1.7     | 2.6 | 3.1 | 1.3     | 3.1 | 2.1 | 1.2     | 2.8 | 2.8 | 0.6     | 2.8 | 3.6 |
| 17                           | 2.2     | 2.5 | 2.5 | 1.8     | 2.5 | 2.1 | 1.3     | 3.1 | 2.6 | 1.2     | 2.7 | 2.5 | 0.5     | 2.6 | 2.5 |
| 18                           | 1.5     | 2.7 | 2.1 | 1.8     | 2.4 | 2.4 | 1.0     | 3.3 | 2.2 | 1.2     | 2.9 | 2.4 | 0.5     | 2.6 | 3.4 |
| 19                           | 2.0     | 2.2 | 2.6 | 1.8     | 2.6 | 2.9 | 1.0     | 3.0 | 1.8 | 1.1     | 2.6 | 3.5 | 0.5     | 2.6 | -   |
| 20                           | 1.9     | 2.6 | 3.1 | 1.8     | 2.3 | -   | 1.1     | 2.8 | 2.7 | 1.1     | 2.7 | -   | 0.5     | 2.5 | -   |

Table 8 (continued)

| Time<br>Since S <sup>R</sup> | Point 1 |     |     | Point 2 |     |   | Point 3 |     |     | Point 4 |     |   | Point 5 |     |   |
|------------------------------|---------|-----|-----|---------|-----|---|---------|-----|-----|---------|-----|---|---------|-----|---|
|                              | 0       | 1   | 2   | 0       | 1   | 2 | 0       | 1   | 2   | 0       | 1   | 2 | 0       | 1   | 2 |
| 21                           | 2.2     | 2.5 | 2.0 | 1.8     | 2.5 | - | 1.1     | 2.9 | 2.7 | 1.0     | 2.5 | - | 0.5     | 2.7 | - |
| 22                           | 1.4     | 2.1 | 2.5 | 1.8     | 2.4 | - | 1.1     | 2.9 | -   | 1.0     | 2.5 | - | 0.6     | 2.4 | - |
| 23                           | 1.4     | 2.2 | -   | 1.7     | 2.2 | - | 1.0     | 2.9 | -   | 1.0     | 2.4 | - | 0.5     | 2.5 | - |
| 24                           | 1.4     | 2.0 | -   | 2.0     | 2.3 | - | 1.1     | 3.0 | -   | 1.1     | 2.7 | - | 0.6     | 2.4 | - |
| 25                           | 0.9     | 2.4 | -   | 1.8     | 2.3 | - | 1.1     | 2.8 | -   | 1.0     | 2.6 | - | 0.5     | 2.5 | - |
| 26                           | 1.2     | 1.9 | -   | 1.7     | 2.2 | - | 1.1     | 3.0 | -   | 0.9     | 2.4 | - | 0.5     | 2.2 | - |
| 27                           | 0.8     | 1.9 | -   | 2.0     | 2.2 | - | 1.1     | 2.7 | -   | 1.0     | 2.7 | - | 0.6     | 2.4 | - |
| 28                           | 0.8     | 1.8 | -   | 1.8     | 2.2 | - | 1.1     | 2.8 | -   | 0.9     | 2.4 | - | 0.4     | 2.5 | - |
| 29                           | 0.7     | 1.6 | -   | 1.8     | 2.2 | - | 1.2     | 2.7 | -   | 1.0     | 2.4 | - | 0.7     | 2.3 | - |
| 30                           | 1.0     | 1.5 | -   | 1.9     | 2.2 | - | 1.6     | 2.7 | -   | 1.1     | 2.4 | - | 0.6     | 2.4 | - |
| 31                           | 0.7     | 1.6 | -   | 1.8     | 2.0 | - | 1.2     | 2.8 | -   | 1.3     | 2.2 | - | 0.7     | 2.4 | - |
| 32                           | -       | 1.5 | -   | 1.9     | 2.2 | - | 1.4     | 2.6 | -   | 1.1     | 2.2 | - | 0.7     | 2.2 | - |
| 33                           | -       | 1.5 | -   | 1.8     | 2.1 | - | 1.7     | 2.5 | -   | 1.1     | 2.4 | - | 0.8     | 2.5 | - |
| 34                           | -       | 1.3 | -   | 2.0     | 2.0 | - | 1.8     | 2.7 | -   | 1.1     | 2.2 | - | 0.9     | 2.3 | - |
| 35                           | -       | 1.3 | -   | 2.1     | 2.1 | - | 1.7     | 2.6 | -   | 1.3     | 2.3 | - | 0.9     | 2.1 | - |
| 36                           | -       | 1.4 | -   | 2.1     | 2.3 | - | 1.5     | 2.5 | -   | 1.3     | 2.0 | - | 1.0     | 2.4 | - |
| 37                           | -       | 1.3 | -   | 1.9     | 2.0 | - | 1.5     | 2.5 | -   | 1.3     | 2.5 | - | 1.1     | 2.4 | - |
| 38                           | -       | 1.5 | -   | 2.0     | 2.3 | - | 1.7     | 2.8 | -   | 1.1     | 2.5 | - | 1.1     | 2.2 | - |
| 39                           | -       | 1.2 | -   | 2.1     | 2.1 | - | 1.7     | 2.5 | -   | 1.4     | 2.2 | - | 0.9     | 2.2 | - |
| 40                           | -       | 1.3 | -   | 2.1     | 2.2 | - | 1.5     | 2.7 | -   | 1.2     | 2.1 | - | 1.1     | 2.2 | - |
| 41                           | -       | 1.1 | -   | 2.3     | 2.3 | - | 1.6     | 2.6 | -   | 1.4     | 2.5 | - | 0.9     | 2.5 | - |
| 42                           | -       | 1.1 | -   | 2.0     | 2.2 | - | 2.0     | 2.2 | -   | 1.6     | 2.1 | - | 1.1     | 2.4 | - |
| 43                           | -       | 1.1 | -   | 2.0     | 2.2 | - | 1.7     | 2.6 | -   | 1.6     | 2.3 | - | 1.2     | 2.1 | - |
| 44                           | -       | 0.9 | -   | 2.1     | 2.2 | - | 1.7     | 2.7 | -   | 1.6     | 2.4 | - | 1.2     | 2.5 | - |
| 45                           | -       | 0.8 | -   | 2.3     | 2.5 | - | 1.7     | 2.6 | -   | 1.8     | 2.1 | - | 1.2     | 2.7 | - |

Table 8 (continued)

| Time<br>Since S <sup>R</sup> | Point 1 |     |   | Point 2 |     |   | Point 3 |     |   | Point 4 |     |   | Point 5 |     |   |
|------------------------------|---------|-----|---|---------|-----|---|---------|-----|---|---------|-----|---|---------|-----|---|
|                              | 0       | 1   | 2 | 0       | 1   | 2 | 0       | 1   | 2 | 0       | 1   | 2 | 0       | 1   | 2 |
| 46                           | -       | 0.9 | - | 2.1     | 2.2 | - | 1.7     | 2.6 | - | 1.7     | 2.1 | - | 1.2     | 2.5 | - |
| 47                           | -       | 1.1 | - | 2.5     | 2.3 | - | 1.8     | 2.5 | - | 1.9     | 2.2 | - | 1.3     | 2.5 | - |
| 48                           | -       | 0.9 | - | 2.1     | 2.4 | - | 1.8     | 2.4 | - | 1.9     | 2.2 | - | 1.6     | 2.3 | - |
| 49                           | -       | 1.1 | - | 2.3     | 2.2 | - | 1.9     | 2.9 | - | 2.0     | 2.0 | - | 1.5     | 2.1 | - |
| 50                           | -       | 0.8 | - | 2.5     | 2.4 | - | 2.1     | 2.5 | - | 1.9     | 2.2 | - | 1.5     | 2.4 | - |

Table 9

Running rate as a function of time since reinforcement for three  $\tau$  schedules at five experimental points for Group C. Time since reinforcement in seconds; running rates in responses per second.

| Time<br>Since $S^R$ | Point 1 |     |     | Point 2 |     |     | Point 3 |     |     | Point 4 |     |     | Point 5 |     |     |
|---------------------|---------|-----|-----|---------|-----|-----|---------|-----|-----|---------|-----|-----|---------|-----|-----|
|                     | 0       | 1   | 2   | 0       | 1   | 2   | 0       | 1   | 2   | 0       | 1   | 2   | 0       | 1   | 2   |
| 1                   | 0.3     | 1.2 | 3.5 | 1.3     | 2.1 | 3.2 | 1.5     | 1.9 | 2.4 | 2.8     | 3.1 | 2.7 | 1.5     | 2.0 | 2.6 |
| 2                   | 0.4     | 1.6 | 2.8 | 0.9     | 2.0 | 2.6 | 0.8     | 1.6 | 2.5 | 2.3     | 3.2 | 2.3 | 0.8     | 1.7 | 2.6 |
| 3                   | 0.6     | 2.0 | 2.7 | 0.7     | 2.1 | 2.6 | 0.7     | 2.0 | 2.7 | 2.1     | 3.2 | 2.7 | 0.6     | 2.3 | 2.8 |
| 4                   | 0.7     | 2.1 | 2.8 | 0.5     | 2.4 | 2.8 | 0.5     | 2.2 | 3.1 | 2.4     | 3.1 | 2.8 | 0.4     | 2.5 | 3.0 |
| 5                   | 1.1     | 2.5 | 2.8 | 0.5     | 2.4 | 2.8 | 0.5     | 2.2 | 3.1 | 2.6     | 2.9 | 2.7 | 0.3     | 2.6 | 3.0 |
| 6                   | 0.9     | 2.5 | 2.8 | 0.4     | 2.4 | 2.9 | 0.4     | 2.1 | 2.8 | 2.6     | 3.0 | 2.5 | 0.5     | 2.6 | 3.1 |
| 7                   | 0.5     | 2.6 | 2.6 | 0.4     | 2.3 | 2.8 | 0.5     | 2.1 | 2.7 | 2.8     | 2.9 | 2.3 | 0.3     | 2.5 | 2.9 |
| 8                   | 0.8     | 2.3 | 2.8 | 0.4     | 2.2 | 2.6 | 0.5     | 2.0 | 2.8 | 2.5     | 2.6 | 1.9 | 0.3     | 2.4 | 2.8 |
| 9                   | 0.7     | 2.2 | 2.6 | 0.4     | 2.3 | 2.5 | 0.5     | 2.0 | 2.8 | 0.1     | 0.2 | 0.8 | 0.3     | 2.2 | 2.9 |
| 10                  | -       | 2.2 | 2.3 | 0.3     | 2.3 | 2.6 | 0.6     | 2.1 | 2.7 | 0.3     | 0.3 | -   | 0.2     | 2.1 | 3.1 |
| 11                  | -       | 2.4 | 2.3 | 0.4     | 2.3 | 2.5 | 0.7     | 2.1 | 2.5 | 0.7     | 0.6 | -   | 0.3     | 2.2 | 2.7 |
| 12                  | -       | 2.2 | 2.6 | 0.5     | 2.4 | 2.3 | 0.7     | 2.0 | 2.5 | 1.1     | -   | -   | 0.2     | 2.2 | 2.8 |
| 13                  | -       | 2.2 | 2.4 | 0.5     | 2.3 | 2.5 | 0.8     | 2.0 | 2.2 | 1.3     | -   | -   | 0.2     | 2.0 | 2.3 |
| 14                  | -       | 2.1 | 2.3 | 0.5     | 2.0 | 2.1 | 0.9     | 2.0 | 2.6 | 1.6     | -   | -   | 0.2     | 2.1 | 2.4 |
| 15                  | -       | 2.0 | 2.4 | 0.5     | 2.1 | 2.5 | 0.9     | 1.9 | 2.8 | 1.8     | -   | -   | 0.3     | 1.9 | 1.8 |
| 16                  | -       | 2.1 | 2.4 | 0.5     | 2.1 | 2.5 | 1.0     | 2.0 | 2.4 | 1.9     | -   | -   | 0.4     | 1.9 | 2.7 |
| 17                  | -       | 2.1 | 2.6 | 0.6     | 2.1 | 2.4 | 1.1     | 2.1 | 1.9 | 2.0     | -   | -   | 0.4     | 2.1 | 2.3 |
| 18                  | -       | 2.3 | 2.7 | 0.7     | 2.0 | 2.1 | 1.2     | 2.2 | -   | 1.6     | -   | -   | 0.3     | 2.3 | -   |
| 19                  | -       | 2.0 | 2.3 | 0.4     | 2.1 | -   | 1.3     | 2.1 | -   | 0.1     | -   | -   | 0.3     | 2.0 | -   |
| 20                  | -       | 2.2 | -   | 0.6     | 2.0 | -   | 1.4     | 2.1 | -   | -       | -   | -   | 0.3     | 2.2 | -   |

Table 9 (continued)

| Time<br>Since S <sup>R</sup> | Point 1 |     |   | Point 2 |     |   | Point 3 |     |   | Point 4 |   |   | Point 5 |     |   |
|------------------------------|---------|-----|---|---------|-----|---|---------|-----|---|---------|---|---|---------|-----|---|
|                              | 0       | 1   | 2 | 0       | 1   | 2 | 0       | 1   | 2 | 0       | 1 | 2 | 0       | 1   | 2 |
| 21                           | -       | 1.9 | - | 0.7     | 2.0 | - | 1.5     | 2.0 | - | -       | - | - | 0.4     | 1.9 | - |
| 22                           | -       | 2.0 | - | 0.6     | 2.0 | - | 1.7     | 2.1 | - | -       | - | - | 0.4     | 2.0 | - |
| 23                           | -       | 1.8 | - | 0.6     | 2.0 | - | 1.7     | 2.1 | - | -       | - | - | 0.4     | 2.0 | - |
| 24                           | -       | 1.7 | - | 0.7     | 1.9 | - | 1.8     | 2.3 | - | -       | - | - | 0.5     | 2.0 | - |
| 25                           | -       | 1.9 | - | 0.7     | 2.1 | - | 1.6     | 2.4 | - | -       | - | - | 0.5     | 2.0 | - |
| 26                           | -       | 1.6 | - | 0.8     | 2.0 | - | 1.8     | 2.4 | - | -       | - | - | 0.6     | 2.0 | - |
| 27                           | -       | 1.7 | - | 0.8     | 2.2 | - | 1.9     | 2.5 | - | -       | - | - | 0.6     | 1.9 | - |
| 28                           | -       | 1.6 | - | 1.0     | 2.0 | - | 2.0     | 2.4 | - | -       | - | - | 0.7     | 1.9 | - |
| 29                           | -       | 1.5 | - | 0.8     | 1.9 | - | 2.1     | 2.5 | - | -       | - | - | 0.6     | 2.0 | - |
| 30                           | -       | 1.6 | - | 0.9     | 2.1 | - | 2.2     | 2.5 | - | -       | - | - | 0.7     | 1.9 | - |
| 31                           | -       | 1.7 | - | 0.9     | 2.1 | - | 2.1     | 2.5 | - | -       | - | - | 0.8     | 1.9 | - |
| 32                           | -       | 1.4 | - | 1.1     | 2.0 | - | 2.3     | 2.4 | - | -       | - | - | 0.7     | 1.9 | - |
| 33                           | -       | 1.4 | - | 0.9     | 2.1 | - | 2.3     | 2.6 | - | -       | - | - | 0.9     | 1.9 | - |
| 34                           | -       | 1.6 | - | 1.0     | 2.1 | - | 2.2     | 2.6 | - | -       | - | - | 0.8     | 2.0 | - |
| 35                           | -       | 1.2 | - | 1.3     | 2.0 | - | 2.3     | 2.5 | - | -       | - | - | 1.0     | 2.2 | - |
| 36                           | -       | 1.6 | - | 1.3     | 1.9 | - | 2.3     | 2.5 | - | -       | - | - | 1.0     | 2.1 | - |
| 37                           | -       | 1.3 | - | 1.3     | 2.2 | - | 2.3     | 2.5 | - | -       | - | - | 1.2     | 2.1 | - |
| 38                           | -       | 1.2 | - | 1.2     | 2.1 | - | 2.4     | 2.6 | - | -       | - | - | 1.2     | 2.0 | - |
| 39                           | -       | 1.1 | - | 1.2     | 1.7 | - | 2.1     | 2.3 | - | -       | - | - | 1.2     | 1.9 | - |
| 40                           | -       | 1.1 | - | 1.2     | 2.2 | - | 1.6     | 2.0 | - | -       | - | - | 1.4     | 2.0 | - |
| 41                           | -       | 1.0 | - | 1.5     | 1.9 | - | 0.9     | 1.9 | - | -       | - | - | 1.2     | 2.1 | - |
| 42                           | -       | 1.0 | - | 1.4     | 2.1 | - | 0.8     | -   | - | -       | - | - | 1.4     | 2.1 | - |
| 43                           | -       | 1.3 | - | 1.4     | 2.3 | - | -       | -   | - | -       | - | - | 1.4     | 2.2 | - |
| 44                           | -       | 0.9 | - | 1.5     | 2.3 | - | -       | -   | - | -       | - | - | 1.6     | 1.9 | - |
| 45                           | -       | 1.2 | - | 1.7     | 2.3 | - | -       | -   | - | -       | - | - | 1.5     | 2.0 | - |

Table 9 (continued)

| Time<br>Since S <sup>R</sup> | Point 1 |     |   | Point 2 |     |   | Point 3 |   |   | Point 4 |   |   | Point 5 |     |   |
|------------------------------|---------|-----|---|---------|-----|---|---------|---|---|---------|---|---|---------|-----|---|
|                              | 0       | 1   | 2 | 0       | 1   | 2 | 0       | 1 | 2 | 0       | 1 | 2 | 0       | 1   | 2 |
| 46                           | -       | 1.2 | - | 1.7     | 2.2 | - | -       | - | - | -       | - | - | 1.8     | 2.2 | - |
| 47                           | -       | 1.1 | - | 1.6     | 2.1 | - | -       | - | - | -       | - | - | 1.7     | 2.3 | - |
| 48                           | -       | 1.0 | - | 1.9     | 2.6 | - | -       | - | - | -       | - | - | 1.7     | 2.2 | - |
| 49                           | -       | 1.2 | - | 2.0     | 2.4 | - | -       | - | - | -       | - | - | 1.7     | 2.2 | - |
| 50                           | -       | 1.0 | - | 1.8     | 2.5 | - | -       | - | - | -       | - | - | 1.8     | 2.0 | - |

Table 10

Running rate as a function of time since reinforcement for three  $\tau$  schedules at five experimental points for Group D. Time since reinforcement in seconds; running rates in responses per second.

| Time<br>Since $S^R$ | Point 1 |     |     | Point 2 |     |     | Point 3 |     |     | Point 4 |     |     | Point 5 |     |     |
|---------------------|---------|-----|-----|---------|-----|-----|---------|-----|-----|---------|-----|-----|---------|-----|-----|
|                     | 0       | 1   | 2   | 0       | 1   | 2   | 0       | 1   | 2   | 0       | 1   | 2   | 0       | 1   | 2   |
| 1                   | 0.4     | 1.3 | 3.9 | 1.3     | 2.3 | 3.4 | 1.5     | 2.1 | 3.0 | 2.5     | 2.8 | 3.1 | 1.3     | 2.2 | 3.3 |
| 2                   | 1.2     | 2.8 | 3.4 | 1.3     | 2.6 | 3.7 | 0.7     | 2.0 | 3.3 | 2.3     | 2.7 | 2.9 | 0.5     | 2.0 | 3.0 |
| 3                   | 1.5     | 2.9 | 3.4 | 1.4     | 2.9 | 3.6 | 0.6     | 1.9 | 3.1 | 2.4     | 2.8 | 2.9 | 0.5     | 2.3 | 3.0 |
| 4                   | 1.5     | 3.3 | 3.4 | 1.4     | 2.7 | 3.3 | 0.5     | 1.9 | 2.9 | 2.7     | 3.1 | 3.1 | 0.7     | 2.4 | 3.6 |
| 5                   | 1.4     | 2.7 | 3.4 | 1.3     | 2.7 | 3.1 | 0.6     | 1.9 | 2.8 | 2.8     | 3.0 | 3.0 | 0.6     | 2.5 | 3.5 |
| 6                   | 1.1     | 2.8 | 3.2 | 1.0     | 2.5 | 3.3 | 0.6     | 1.7 | 2.7 | 3.0     | 3.1 | 2.8 | 0.5     | 2.4 | 3.5 |
| 7                   | 1.2     | 2.3 | 3.1 | 0.8     | 2.4 | 3.4 | 0.5     | 1.4 | 2.8 | 3.0     | 3.1 | 2.7 | 0.4     | 2.1 | 3.1 |
| 8                   | 1.4     | 2.5 | 3.2 | 0.9     | 2.3 | 3.4 | 0.6     | 1.3 | 2.6 | 2.5     | 2.6 | 2.1 | 0.4     | 2.1 | 3.1 |
| 9                   | 1.4     | 2.2 | 3.1 | 1.0     | 2.3 | 3.2 | 0.5     | 1.5 | 2.5 | 0.0     | 0.2 | 1.5 | 0.3     | 2.0 | 2.7 |
| 10                  | 1.3     | 2.3 | 3.0 | 1.0     | 2.1 | 3.2 | 0.5     | 1.4 | 2.7 | 0.1     | 0.5 | -   | 2.3     | 1.9 | 2.5 |
| 11                  | 1.2     | 2.1 | 2.8 | 0.7     | 2.1 | 3.0 | 0.5     | 1.4 | 2.4 | 0.8     | 0.6 | -   | 0.2     | 1.9 | 2.7 |
| 12                  | 0.9     | 1.9 | 2.8 | 0.6     | 1.9 | 3.0 | 0.6     | 1.3 | 2.3 | 1.2     | 0.8 | -   | 0.2     | 1.6 | 2.6 |
| 13                  | 0.7     | 1.7 | 2.9 | 0.6     | 2.1 | 3.1 | 0.7     | 1.2 | 2.7 | 1.3     | 1.3 | -   | 0.2     | 1.8 | 2.3 |
| 14                  | 0.7     | 1.6 | 2.8 | 0.8     | 1.9 | 3.4 | 0.7     | 1.2 | 2.2 | 2.0     | 1.6 | -   | 0.2     | 1.7 | 2.7 |
| 15                  | 0.6     | 1.8 | 2.5 | 0.9     | 1.9 | 2.2 | 0.7     | 1.3 | 2.0 | 1.9     | 1.5 | -   | 0.2     | 1.5 | 2.5 |
| 16                  | 0.8     | 1.4 | 2.2 | 0.8     | 1.9 | 1.5 | 0.8     | 1.2 | 2.2 | 2.1     | 1.7 | -   | 0.3     | 1.6 | 2.5 |
| 17                  | 0.7     | 1.6 | 2.2 | 0.7     | 1.8 | 2.1 | 0.8     | 1.3 | 2.2 | 1.9     | 1.5 | -   | 0.3     | 1.5 | 2.3 |
| 18                  | -       | 1.3 | 1.8 | 0.8     | 1.9 | 2.2 | 1.0     | 1.3 | 2.0 | 1.7     | 1.3 | -   | 0.3     | 1.4 | 2.1 |
| 19                  | -       | 1.2 | -   | 0.7     | 1.9 | 2.3 | 1.0     | 1.4 | 2.6 | -       | -   | -   | 0.3     | 1.6 | 1.7 |
| 20                  | -       | 1.2 | -   | 0.7     | 1.8 | 1.8 | 1.2     | 1.3 | -   | -       | -   | -   | 0.2     | 1.4 | 2.4 |

Table 10 (continued)

| Time<br>Since S <sup>R</sup> | Point 1 |     |   | Point 2 |     |   | Point 3 |     |   | Point 4 |   |   | Point 5 |     |   |
|------------------------------|---------|-----|---|---------|-----|---|---------|-----|---|---------|---|---|---------|-----|---|
|                              | 0       | 1   | 2 | 0       | 1   | 2 | 0       | 1   | 2 | 0       | 1 | 2 | 0       | 1   | 2 |
| 21                           | -       | 1.2 | - | 0.6     | 1.8 | - | 1.2     | 1.4 | - | -       | - | - | 0.3     | 1.2 | - |
| 22                           | -       | 1.1 | - | 0.6     | 1.7 | - | 1.3     | 1.5 | - | -       | - | - | 0.4     | 1.3 | - |
| 23                           | -       | 1.3 | - | 0.8     | 1.7 | - | 1.4     | 1.5 | - | -       | - | - | 0.4     | 1.4 | - |
| 24                           | -       | 1.4 | - | 0.6     | 1.8 | - | 1.5     | 1.5 | - | -       | - | - | 0.4     | 1.4 | - |
| 25                           | -       | 1.1 | - | 0.8     | 1.6 | - | 1.4     | 1.6 | - | -       | - | - | 0.3     | 1.4 | - |
| 26                           | -       | 1.1 | - | 0.8     | 1.7 | - | 1.7     | 1.6 | - | -       | - | - | 0.5     | 1.4 | - |
| 27                           | -       | 0.9 | - | 0.7     | 1.7 | - | 1.7     | 1.6 | - | -       | - | - | 0.5     | 1.3 | - |
| 28                           | -       | 0.8 | - | 0.8     | 1.4 | - | 1.7     | 1.6 | - | -       | - | - | 0.5     | 1.4 | - |
| 29                           | -       | 0.8 | - | 0.9     | 1.5 | - | 1.8     | 1.7 | - | -       | - | - | 0.6     | 1.4 | - |
| 30                           | -       | 1.1 | - | 1.0     | 1.6 | - | 1.9     | 1.7 | - | -       | - | - | 0.6     | 1.3 | - |
| 31                           | -       | 0.8 | - | 1.1     | 1.6 | - | 1.9     | 1.7 | - | -       | - | - | 0.5     | 1.3 | - |
| 32                           | -       | 0.8 | - | 1.2     | 1.8 | - | 1.9     | 1.7 | - | -       | - | - | 0.7     | 1.4 | - |
| 33                           | -       | 0.8 | - | 1.1     | 1.7 | - | 2.1     | 1.9 | - | -       | - | - | 0.7     | 1.2 | - |
| 34                           | -       | 0.4 | - | 1.0     | 1.8 | - | 2.1     | 1.7 | - | -       | - | - | 0.7     | 1.3 | - |
| 35                           | -       | 0.5 | - | 1.1     | 1.6 | - | 2.1     | 1.9 | - | -       | - | - | 0.8     | 1.2 | - |
| 36                           | -       | 0.5 | - | 1.0     | 1.4 | - | 2.1     | 1.8 | - | -       | - | - | 0.9     | 1.2 | - |
| 37                           | -       | 0.4 | - | 1.0     | 1.4 | - | 2.0     | 1.7 | - | -       | - | - | 0.9     | 1.2 | - |
| 38                           | -       | 0.4 | - | 1.2     | 1.4 | - | 1.9     | 1.6 | - | -       | - | - | 0.8     | 1.1 | - |
| 39                           | -       | 0.5 | - | 1.2     | 1.5 | - | 1.7     | 1.4 | - | -       | - | - | 0.8     | 1.1 | - |
| 40                           | -       | 0.8 | - | 1.1     | 1.5 | - | 1.2     | 0.7 | - | -       | - | - | 0.8     | 1.1 | - |
| 41                           | -       | 0.6 | - | 1.3     | 1.6 | - | 0.4     | 0.1 | - | -       | - | - | 0.9     | 1.0 | - |
| 42                           | -       | -   | - | 1.3     | 1.6 | - | 0.2     | -   | - | -       | - | - | 1.0     | 1.0 | - |
| 43                           | -       | -   | - | 1.2     | 1.4 | - | -       | -   | - | -       | - | - | 1.2     | 1.1 | - |
| 44                           | -       | -   | - | 1.3     | 1.4 | - | -       | -   | - | -       | - | - | 1.1     | 1.1 | - |
| 45                           | -       | -   | - | 1.5     | 1.4 | - | -       | -   | - | -       | - | - | 1.1     | 1.0 | - |

Table 10 (continued)

| Time<br>Since S <sup>R</sup> | Point 1 |   |   | Point 2 |     |   | Point 3 |   |   | Point 4 |   |   | Point 5 |     |   |
|------------------------------|---------|---|---|---------|-----|---|---------|---|---|---------|---|---|---------|-----|---|
|                              | 0       | 1 | 2 | 0       | 1   | 2 | 0       | 1 | 2 | 0       | 1 | 2 | 0       | 1   | 2 |
| 46                           | -       | - | - | 1.5     | 1.5 | - | -       | - | - | -       | - | - | 1.2     | 1.2 | - |
| 47                           | -       | - | - | 1.5     | 1.5 | - | -       | - | - | -       | - | - | 1.2     | 1.1 | - |
| 48                           | -       | - | - | 1.6     | 1.7 | - | -       | - | - | -       | - | - | 1.2     | 1.1 | - |
| 49                           | -       | - | - | 1.5     | 1.6 | - | -       | - | - | -       | - | - | 1.4     | 1.3 | - |
| 50                           | -       | - | - | 1.6     | 1.5 | - | -       | - | - | -       | - | - | 1.5     | 1.2 | - |

Table 11

Running rate as a function of time since reinforcement for three  $\tau$  schedules at five experimental points for Group X. Time since reinforcement in seconds; running rates in responses per second.

| Time<br>Since S <sup>R</sup> | Point 1 |     |     | Point 2 |     |     | Point 3 |     |     | Point 4 |     |     | Point 5 |     |     |
|------------------------------|---------|-----|-----|---------|-----|-----|---------|-----|-----|---------|-----|-----|---------|-----|-----|
|                              | 0       | 1   | 2   | 0       | 1   | 2   | 0       | 1   | 2   | 0       | 1   | 2   | 0       | 1   | 2   |
| 1                            | 4.9     | 5.0 | 4.5 | 4.6     | 4.7 | 4.2 | 1.5     | 4.6 | 4.8 | 2.5     | 2.4 | 4.2 | 3.5     | 3.7 | 3.9 |
| 2                            | 4.0     | 4.0 | 3.8 | 4.4     | 4.0 | 3.7 | 3.9     | 4.0 | 3.4 | 3.8     | 4.0 | 3.5 | 3.6     | 3.5 | 3.6 |
| 3                            | 3.8     | 3.8 | 3.7 | 4.2     | 4.2 | 4.2 | 2.9     | 3.1 | 3.7 | 3.0     | 3.4 | 3.6 | 3.6     | 3.6 | 3.8 |
| 4                            | 4.0     | 3.8 | 3.7 | 4.1     | 4.2 | 3.9 | 3.2     | 3.4 | 3.9 | 3.3     | 3.6 | 4.1 | 3.8     | 4.3 | 3.9 |
| 5                            | 3.9     | 3.8 | 3.5 | 4.0     | 4.0 | 4.0 | 3.1     | 3.7 | 4.2 | 3.6     | 3.8 | 4.1 | 3.5     | 4.2 | 3.6 |
| 6                            | 3.8     | 3.6 | 3.2 | 4.0     | 4.0 | 3.7 | 2.9     | 3.9 | 3.9 | 3.3     | 4.0 | 4.1 | 3.4     | 4.1 | 3.3 |
| 7                            | 3.6     | 3.6 | 3.1 | 3.9     | 3.9 | 3.8 | 3.1     | 3.9 | 3.6 | 2.9     | 3.8 | 3.5 | 3.2     | 3.9 | 3.2 |
| 8                            | 3.9     | 3.7 | 3.1 | 3.8     | 3.8 | 3.6 | 2.8     | 4.0 | 3.4 | 2.9     | 3.6 | 3.1 | 3.5     | 3.7 | 3.4 |
| 9                            | 3.6     | 3.6 | 3.1 | 3.8     | 3.7 | 3.5 | 2.8     | 4.0 | 3.4 | 2.5     | 3.5 | 3.4 | 3.0     | 3.5 | 3.5 |
| 10                           | 3.5     | 3.5 | 3.3 | 3.9     | 3.8 | 3.5 | 2.9     | 3.5 | 3.1 | 2.6     | 3.7 | 3.9 | 3.5     | 3.7 | 2.9 |
| 11                           | 3.6     | 3.6 | 3.4 | 3.7     | 3.9 | 3.4 | 2.3     | 3.7 | 3.4 | 2.2     | 3.4 | 3.8 | 2.7     | 3.5 | 2.9 |
| 12                           | 3.4     | 3.5 | 3.4 | 3.9     | 3.6 | 3.3 | 2.7     | 3.7 | 3.3 | 1.9     | 3.3 | 2.9 | 3.2     | 3.6 | 3.1 |
| 13                           | 3.5     | 3.5 | 3.5 | 4.1     | 3.8 | 2.7 | 2.9     | 3.4 | 3.5 | 1.8     | 3.3 | 2.8 | 3.0     | 3.6 | 3.8 |
| 14                           | 3.4     | 3.2 | 3.3 | 3.8     | 3.7 | 2.7 | 2.7     | 3.5 | 2.8 | 1.6     | 3.2 | 2.8 | 2.4     | 3.6 | 2.9 |
| 15                           | 3.2     | 3.2 | 2.1 | 3.7     | 3.7 | -   | 2.5     | 3.6 | 2.7 | 1.8     | 3.1 | 2.5 | 2.8     | 3.5 | 1.8 |
| 16                           | 3.2     | 3.3 | 4.0 | 3.7     | 3.6 | -   | 3.0     | 3.4 | 2.2 | 1.3     | 3.1 | 3.3 | 2.3     | 3.1 | 2.0 |
| 17                           | 3.1     | 3.1 | 3.4 | 3.7     | 3.5 | -   | 2.4     | 3.3 | 2.8 | 1.4     | 2.9 | -   | 2.2     | 3.2 | 2.8 |
| 18                           | 3.1     | 3.1 | -   | 3.6     | 3.3 | -   | 2.5     | 3.3 | 2.3 | 1.4     | 3.0 | -   | 2.5     | 3.0 | -   |
| 19                           | 2.7     | 3.0 | -   | 3.2     | 3.0 | -   | 2.4     | 3.4 | 2.5 | 1.3     | 2.8 | -   | 2.5     | 2.6 | -   |
| 20                           | 2.9     | 2.9 | -   | 3.1     | 3.2 | -   | 2.6     | 3.4 | 2.5 | 1.2     | 2.7 | -   | 2.2     | 2.8 | -   |

Table 11 (continued)

| Time<br>Since S <sup>R</sup> | Point 1 |     |   | Point 2 |     |   | Point 3 |     |     | Point 4 |     |   | Point 5 |     |   |
|------------------------------|---------|-----|---|---------|-----|---|---------|-----|-----|---------|-----|---|---------|-----|---|
|                              | 0       | 1   | 2 | 0       | 1   | 2 | 0       | 1   | 2   | 0       | 1   | 2 | 0       | 1   | 2 |
| 21                           | 2.4     | 3.0 | - | 3.4     | 3.4 | - | 2.5     | 3.4 | 2.7 | 1.2     | 2.6 | - | 1.5     | 2.8 | - |
| 22                           | 2.6     | 3.4 | - | 3.5     | 3.1 | - | 2.5     | 3.5 | -   | 1.3     | 2.8 | - | 1.5     | 2.6 | - |
| 23                           | 2.5     | 2.9 | - | 3.4     | 3.3 | - | 2.7     | 3.5 | -   | 1.2     | 3.0 | - | 1.4     | 2.4 | - |
| 24                           | 2.6     | 2.9 | - | 3.4     | 3.0 | - | 2.7     | 3.0 | -   | 1.3     | 2.6 | - | 1.3     | 2.1 | - |
| 25                           | 2.9     | 2.4 | - | 3.2     | 3.3 | - | 2.6     | 3.3 | -   | 1.2     | 2.6 | - | 1.6     | 2.3 | - |
| 26                           | 2.8     | 2.5 | - | 3.0     | 3.6 | - | 2.6     | 3.3 | -   | 1.3     | 2.7 | - | 1.3     | 2.3 | - |
| 27                           | 2.4     | 3.1 | - | 3.0     | 3.1 | - | 3.0     | 2.9 | -   | 1.0     | 2.7 | - | -       | 2.0 | - |
| 28                           | 2.5     | 2.8 | - | 3.3     | 3.0 | - | 2.4     | 3.1 | -   | 1.0     | 2.8 | - | -       | 1.7 | - |
| 29                           | 2.7     | 2.8 | - | 2.9     | 2.3 | - | 2.9     | 3.3 | -   | 1.1     | 2.8 | - | -       | 1.6 | - |
| 30                           | 2.5     | 2.7 | - | 2.5     | 2.4 | - | 2.6     | 3.4 | -   | 1.1     | 2.9 | - | -       | 1.6 | - |
| 31                           | 2.9     | 2.9 | - | 2.7     | 2.6 | - | 2.9     | 3.1 | -   | 1.2     | 2.9 | - | -       | 1.8 | - |
| 32                           | 2.1     | 2.6 | - | 3.2     | 2.4 | - | 2.7     | 3.2 | -   | 1.1     | 3.2 | - | -       | 2.0 | - |
| 33                           | 2.4     | 2.7 | - | 2.9     | 2.6 | - | 2.7     | 3.2 | -   | 1.1     | 2.9 | - | -       | 1.7 | - |
| 34                           | 2.2     | 2.7 | - | 2.8     | 2.9 | - | 2.5     | 3.4 | -   | 1.2     | 3.0 | - | -       | 1.9 | - |
| 35                           | 2.6     | 2.7 | - | 2.5     | 2.8 | - | 2.6     | 3.4 | -   | 1.2     | 3.0 | - | -       | 2.2 | - |
| 36                           | 2.7     | 3.0 | - | 2.6     | 2.6 | - | 2.8     | 3.6 | -   | 1.4     | 2.8 | - | -       | 2.0 | - |
| 37                           | 2.7     | 2.5 | - | 2.7     | 2.4 | - | 2.8     | 3.4 | -   | 1.6     | 3.2 | - | -       | 2.2 | - |
| 38                           | 2.7     | 2.6 | - | 2.3     | 2.7 | - | 2.6     | 3.4 | -   | 1.6     | 3.0 | - | -       | 2.0 | - |
| 39                           | 2.0     | 3.1 | - | 1.8     | 2.9 | - | 2.4     | 3.3 | -   | 1.5     | 3.0 | - | -       | 2.2 | - |
| 40                           | 2.3     | 3.1 | - | 1.8     | 2.4 | - | 2.5     | 3.5 | -   | 1.7     | 2.9 | - | -       | 2.0 | - |
| 41                           | 2.3     | 2.4 | - | 1.9     | 2.8 | - | 2.6     | 3.7 | -   | 2.0     | 3.2 | - | -       | 1.9 | - |
| 42                           | 2.0     | 2.3 | - | 2.0     | 3.0 | - | 2.4     | 3.4 | -   | 1.9     | 3.1 | - | -       | 1.9 | - |
| 43                           | 1.5     | 3.1 | - | 2.3     | 2.1 | - | 2.1     | 2.8 | -   | 2.0     | 3.2 | - | -       | 1.1 | - |
| 44                           | 1.6     | 2.6 | - | 2.1     | 2.7 | - | 1.7     | 3.1 | -   | 1.8     | 3.4 | - | -       | 1.5 | - |
| 45                           | 2.1     | 2.2 | - | 1.9     | 2.4 | - | 2.0     | 3.5 | -   | 1.6     | 3.2 | - | -       | 1.6 | - |

Table 11 (continued)

| Time<br>Since S <sup>R</sup> | Point 1 |     |   | Point 2 |     |   | Point 3 |     |   | Point 4 |     |   | Point 5 |     |   |
|------------------------------|---------|-----|---|---------|-----|---|---------|-----|---|---------|-----|---|---------|-----|---|
|                              | 0       | 1   | 2 | 0       | 1   | 2 | 0       | 1   | 2 | 0       | 1   | 2 | 0       | 1   | 2 |
| 46                           | 1.8     | 3.3 | - | 2.4     | 2.3 | - | 1.8     | 3.7 | - | 2.0     | 3.3 | - | -       | 1.4 | - |
| 47                           | 1.1     | 3.4 | - | 2.4     | 1.5 | - | 1.9     | 2.6 | - | 2.0     | 2.9 | - | -       | 1.7 | - |
| 48                           | 1.5     | 2.6 | - | 2.3     | 1.4 | - | 1.2     | 2.5 | - | 2.1     | 2.9 | - | -       | 1.5 | - |
| 49                           | 2.0     | 1.9 | - | 2.1     | 1.4 | - | 1.2     | 3.2 | - | 2.0     | 3.0 | - | -       | 1.3 | - |
| 50                           | 1.2     | 2.8 | - | 1.7     | -   | - | 1.1     | 4.3 | - | 2.1     | 3.0 | - | -       | 1.5 | - |

## APPENDIX B

## Paper Tape Recording Schema

The paper tape system recorded all experimental events, along with their times of occurrence to 0.1 sec resolution, from both chambers concurrently. Once the data had been checked for accuracy (see below) and stored on a computer disk pack, analyses of the data were performed by putting the disk pack "on line" and executing appropriate programs. The three experimental events recorded from each chamber ( $R_s$ ,  $S^R_s$ , and  $\tau$  cycles) not only describe each session fully, but also provide enough redundant information to assure the integrity of the data.

Each event is represented by a combination of up to eight holes punched across the one inch wide tape; these eight bits of information, called a "byte", may have one of  $2^8 = 256$  punch configurations. The three high-order bits of each byte are used to encode which of  $2^3 = 8$  events has occurred; the code used is shown in Table 12. The five low-order bits record the status, at the moment the event occurs, of a five-bit binary counter being continuously driven by a 10 hz precision clock. The binary counter "wraps around" (overflows) every 3.2 sec ( $2^5$  pulses), and this overflow is recorded as a separate event each time it occurs (Event 6 in Table 12). Figure 13 shows the first part of a session as recorded on paper tape, and its legend explains some of the punch patterns.

The punch circuit

This section describes the circuit, programmed by standard elec-

tronic logic modules, which interfaces between the experimental control circuitry and the paper tape perforator. There are functionally three stages in the punch circuit through which each recorded event must pass.

(1) Polling events. This function is entirely analogous to an "interruption system" on a computer; it responds to events when they occur, and establishes sequential priorities for simultaneous events. Each event sets one of eight flip-flops (ffs) whenever it occurs, and the polling circuit sweeps all eight ffs 100 times a second, signaling the next stage each time it finds an ff set.

(2) Encode and time stamp. At this stage, a particular event generates its three-bit code, which is concatenated with the current setting of the five-bit clock; these eight bits are then gated into the next stage. The 100 hz polling circuit is synchronized with the 10 hz clock in such a way that (a) the timer never changes value during the encode and time stamp stage, and (b) events occurring in the same 0.01 sec interval as a timer overflow are punched after the overflow event.

(3) Buffer and set-up. For short intervals, events may occur faster than the maximum operating speed of the perforator (30 bytes per second). The buffer stage solves this problem: it is a five-step first-in-first-out (FIFO) queue with each byte moving through the steps of the queue at 10  $\mu$ sec intervals so long as the step ahead is not occupied. The last step of the buffer queue is the set-up stage for the perforator. When a byte reaches this stage, the appropriate punch coils are operated, and a comparison circuit establishes that sensing

contacts on the punch coils agree with the data in the set-up ffs before allowing a byte to be punched. Timing cams on the perforator serve to control the rate of flow of data into the set-up stage.

#### Editing and filing data

Header information (animal number, date, sequence of <sup>schedules</sup> ~~stimuli~~, etc.) are punched manually at the beginning of each session, and the delimit character (Event 7, Table 12) is used to separate data, headers, and sessions along a roll of tape (about one day's data fit on a 600 ft roll of tape). Rolls of tape are punched onto data cards by an IBM 1130 computer, and the cards are processed by an editing program on an IBM S/360 computer. The intermediate tape-to-card conversion is necessary because no paper tape reader has been available to read the tapes fast enough to make the editing routine operate efficiently and at the same time provide output, such as the disk file described below, suitable for later processing. The editing program provides an initial verification of the accuracy of the data by scanning the bytes and checking the following points of redundancy in the coding schema:

(a) timer overflow occurs only when the five-bit code of the timer is all zeroes; (b) the delete/delimit character never occurs in the data with a timer value other than 31 (delete code); (c) the interval between  $S^R$  and the preceding R is 1.8 sec; (d) the value of the five-bit clock never decreases between timer overflows; (e) the number of  $\tau$  cycles is fixed for any given session. Any exception to these conditions is typed on the computer console typewriter and corrected on-line. If necessary, elapsed time between  $\tau$  cycles can be checked by the same feature of the program which checks  $S^R$  duration. Once a

session is judged acceptable, it is automatically stored in a direct access (disk) file, and its location within the file is recorded in a "directory" at the beginning of the file. Programs which subsequently process the data search the directory for the desired session, and use the information found there to locate the data and read them into memory. The first processing program run for each session checks the following for each of the three components in a session: (a) the component duration (must always be very near 500 sec); (b) the number of responses; (c) the number of reinforcements. Discrepancies<sup>a</sup> between the values obtained by this program and corresponding numbers recorded on electromechanical counters during the sessions have been negligible.

Table 12

Three-bit code for identifying events on paper tape.

| Binary<br>Code | Decimal<br>Value | Event                             |
|----------------|------------------|-----------------------------------|
| 000            | 0                | $\tau$ cycle, box 1 <sup>a</sup>  |
| 001            | 1                | $\tau$ cycle, box 2 <sup>a</sup>  |
| 010            | 2                | Reinforcement, box 1 <sup>b</sup> |
| 011            | 3                | Reinforcement, box 2 <sup>b</sup> |
| 100            | 4                | Response, box 1                   |
| 101            | 5                | Response, box 2                   |
| 110            | 6                | Timer overflow                    |
| 111            | 7                | Delete/delimit <sup>c</sup>       |

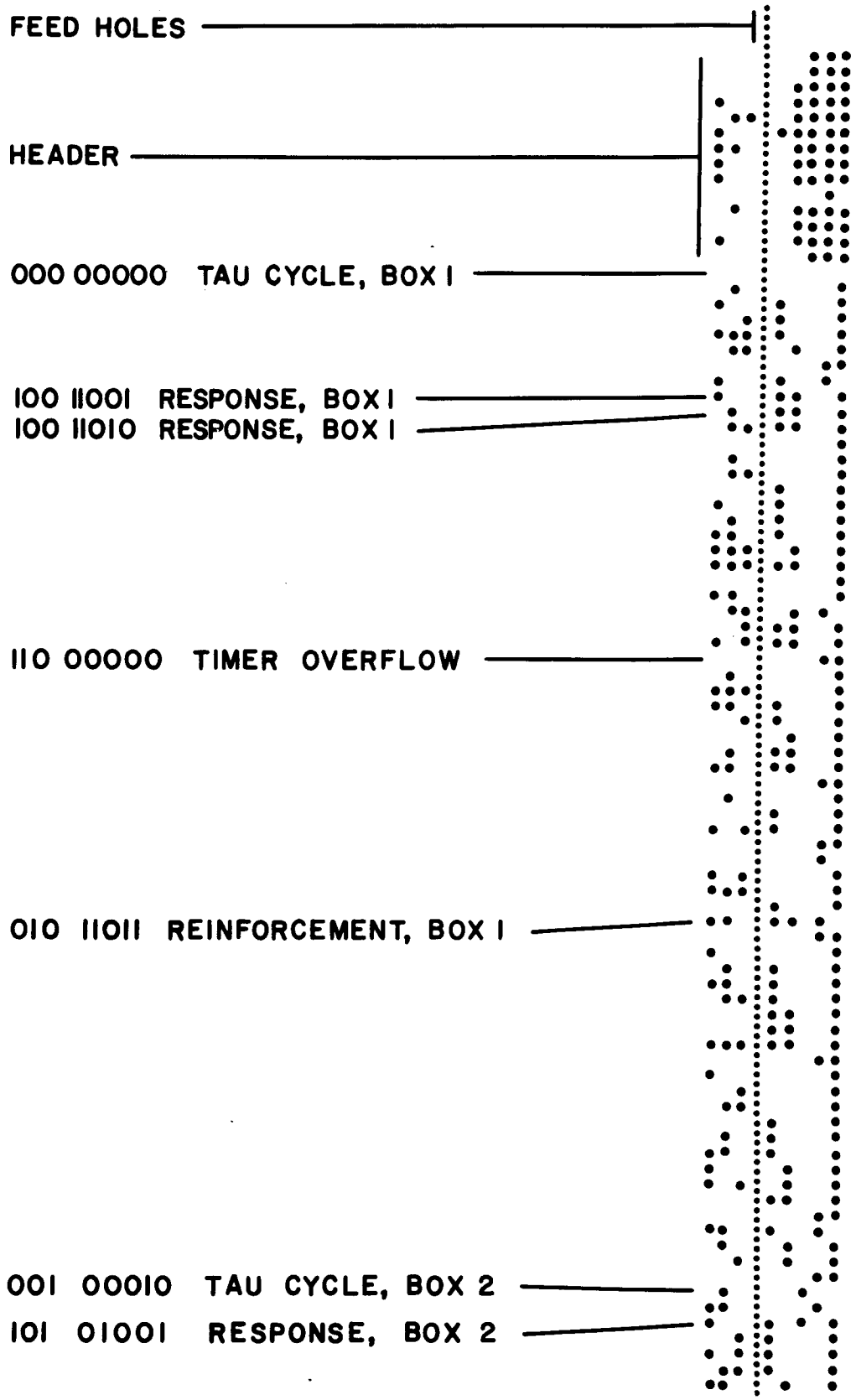
a) Punched at the beginning of each  $\tau$ <sup>D</sup>.

b) Punched 1.8 sec after onset of reinforcement.

c) Event 7 with five zeroes as its timer value is a delimiter, and is punched by hand to separate data and header information. Event 7 with five ones as its timer value (i.e., a byte with all eight bits on) is used during editing to delete a byte.

Figure 13

Representation of a section of paper tape. At the beginning of the session (top of figure), a heading has been punched manually; in this case, two delimit characters (binary 11100000s) are followed by the coded character string, '0969311 201', and another delimit character. This string identifies the session in which Rat 9 was in the first experimental chamber (and Rat 10 in the second), which was run on the 311th day of 1969 (November 7), the sequence of schedules being 2-0-1 for both subjects. The two labeled responses for box 1 (the first experimental chamber) occurred 25 and 26 tenths of a second after the first timer overflow of the session (5.7 and 5.8 seconds after the start of the session), for an IRT of 0.1 sec. The first  $\tau$  cycle for box 2 (marking the beginning of Rat 10's session) was 0.2 sec after the eighth timer overflow of the tape, indicating that Rat 10 started responding  $8 \times 3.2 + 0.2 = 25.0$  sec after Rat 9. Processing programs sort out the data for the two animals automatically.



## APPENDIX C

Listings of the computer program and subroutine used to generate daily procedure sheets for the experiment, and a sample procedure sheet for the first three days of experimental block seven. The column headings of the sample procedure sheet are abbreviated as follows: "TAU" is the length of the  $\tau$  cycles in seconds (all  $\tau$  cycles in a session were the same length), "P-D" is  $p(S^R | R \cdot \tau^D)$ , "P-DELTA" is the session's sequence of  $\tau$  schedules, using the schedules identifiers ("0", "1", "2") defined in the Procedure section, and "Q" ("cue") is the sequence of stimuli, using the stimulus identifiers defined in the Procedure section. The line for Rat 24 is for an extra (not naive) subject which was run only during the first experimental point and whose data were not analyzed. The Fortran program and its Assembly Language subroutine were run on an IBM S/360 model 30 computer with the interval timer special feature.

```

C FORMS2 READS THE LENGTH OF TAU FOR EACH OF FIVE GROUPS OF RATS AND
C AN INITIAL BLOCK NUMBER (614), AND THEN USES RANDOM DIGITS TO PRO-
C DUCE SHEETS SHOWING EXPERIMENTAL CONDITIONS FOR EACH DAY OF SIX
C BLOCKS OF SIX SESSIONS EACH.

C PPERM IS THE SET OF SIX PERMUTATIONS OF THE THREE PROBABILITIES IN
C TAU-DELTA, CODED 0, 1, AND 2. THE FIRST SUBSCRIPT IDENTIFIES THE
C ORDINAL COMPONENT IN A SESSION, AND THE SECOND IS USED TO IDENT-
C IFY THE SIX DIFFERENT PERMUTATIONS, WHICH ARE IN A RANDOM SEQUENCE.

C DAYPRM IS A SET OF SIX COUNTERBALANCED SEQUENCES OF THE SIX PPERMS.
C THE FIRST SUBSCRIPT IDENTIFIES THE ORDINAL SESSION WITHIN A SIX DAY
C BLOCK, AND THE SECOND IDENTIFIES WHICH OF THE SIX PERMUTATIONS,
C WHICH ARE ORDERED RANDOMLY, IS BEING USED.

C BLKPRM IS A RANDOM PERMUTATION OF THE DIGITS 1 TO 6, BUILT BY
C USING A SUBROUTINE WHICH GENERATES PSEUDO-RANDOM NUMBERS. BLKPRM IS
C USED TO SEQUENCE THE SIX DAYPRMS FOR THE SIX BLOCKS OF SESSIONS
C GENERATED EACH TIME THE PROGRAM IS EXECUTED.

C RAND IS AN EIGHTY CHARACTER BUFFER FOR THE RANDOM DIGITS GENERATED
C BY SUBROUTINE RANDOM.

C GROUP CONTAINS THE FIVE EXPERIMENTAL CONDITIONS FOR EACH OF THE
C FIVE GROUPS OF ANIMALS. THE FIRST SUBSCRIPT IDENTIFIES THE VAR-
C IABLES (1- IS THE LENGTH OF TAU IN SECONDS, READ IN FROM A CARD,
C 2- IS THE PROBABILITY OF REINFORCEMENT IN TAU-D (1=0.1, 10=1.0),
C 3- IS THE STIMULUS (0, 1, OR 2) TO BE PAIRED WITH P IN TAU-DELTA=0.00
C 4- IS THE STIMULUS PAIRED WITH P=0.01, AND 5- IS THE STIMULUS PAIR-
C ED WITH P=0.10). THE SECOND SUBSCRIPT IDENTIFIES THE FIVE GROUPS.

C $GROUP IS EQUIVALENT TO GROUP AND IS USED TO ASSIGN FLOATING-POINT
C VALUES TO GROUP(2,N) FOR EASE OF OUTPUT.

C GNAME CONTAINS THE CHARACTER REPRESENTATION OF THE NAMES OF THE
C FIVE GROUPS (A, B, C, D, X).

C RATS CONTAINS THE GROUP (AS A DIGIT 1-5) TO WHICH EACH OF THE 24
C RATS HAS BEEN ASSIGNED.

C Q IS USED AS A LOCATOR WITHIN GROUP OF THE STIMULUS PAIRED WITH
C EACH OF THE THREE PROBABILITIES IN TAU-DELTA (VALUE= 3-5).

0001 IMPLICIT INTEGER*2 (A-Z)
0002 INTEGER*4 GROUP(5,5)
0003 DIMENSION PPERM(3,6), DAYPRM(6,6), GNAME(5), RAND(80), RATS(24),
C BLKPRM(6), $GROUP(5,5), Q(3,6)
0004 EQUIVALENCE(GROUP(1,1),$GROUP(1,1))
0005 DATA PPERM/1,2,0, 0,1,2, 0,2,1, 2,1,0, 1,0,2, 2,0,1/,
C DAYPRM/1,2,6,3,5,4, 4,5,3,6,2,1, 3,4,2,5,1,6, 2,3,1,4,6,5,
C 5,6,4,1,3,2, 6,1,5,2,4,3/,
C GROLG GROUP/0,01,0,1,2, 0,01,2,1,0, 0,10,0,1,2, 0,10,2,1,0, 0,01,0,1,2/
C, RATC, RATS/1,3,2,4,4,1, 2,4,5,3,3,4, 5,1,4,3,2,3, 5,1,1,2,2,5/,

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      C GNAME/'A','B','C','D','X'/
      C -----
0006      DO10 I=1,5
0007          $GROUP(2,I)=GROUP(2,I)
0008      10 $GROUP(2,I)=$GROUP(2,I)/10.
0009      READ(1,800)(GROUP(1,N),N=1,5),BLOCK1
0010      800 FORMAT(6I4)
      C
      C      BUILD A RANDOM PERMUTATION OF SIX BLOCKS
      C
0011          BLOCK=0
0012          DIGIT=0
0013      20 CALL RANDOM(RAND)
0014      30 DIGIT=DIGIT+1
0015          IF(RAND(DIGIT).LE.5) GOTU 50
0016      40 IF(DIGIT.LT.80) GOTO 30
0017          GOTO 20
0018      50 RAND(DIGIT)=RAND(DIGIT)+1
0019          IF(BLOCK.GT.0) GOTO 60
0020          BLKPRM(1)=RAND(DIGIT)
0021          BLOCK=1
0022          GOTO 40
0023      60 DO70 I=1,BLOCK
0024          IF(BLKPRM(I).EQ.RAND(DIGIT)) GOTO 40
0025      70 CONTINUE
0026          BLOCK=BLOCK+1
0027          BLKPRM(BLOCK)=RAND(DIGIT)
0028          IF(BLOCK.LT.6) GOTO 40
0029          WRITE(3,801) BLKPRM
0030      801 FORMAT(T20,'THE BLOCK PERMUTATION IS ',6I1)
      C
      C      WRITE OUT THE FORMS
      C
0031          DO100 BLOCK=1,6
0032          NBLOCK=BLOCK+BLOCK1
0033          DO100 DAYNUM=1,4,3
0034          DAYMUN=DAYNUM+2
0035          WRITE(3,900)(NBLOCK,DAY,DAY=DAYNUM,DAYMUN)
0036      900 FORMAT('1',T20,3('BLOCK',I4,' DAY',I2,' DATE RUN=',I3X)/
      C T20,3('RAT GROUP TAU P-D P-DELTA Q',8X)/)
0037          DO100 ANIMAL=1,23,2
0038          LAMINA=ANIMAL+1
0039          DO90 RATNUM=ANIMAL,LAMINA
0040          DO80 DAY=DAYNUM,DAYMUN
0041          DO80 I=1,3
0042          80 Q(I,DAY)=PPERM(I,DAYPRM(DAY,BLKPRM(BLOCK)))+3
0043          90 WRITE(3,901) (RATNUM,GNAME(RATS(RATNUM)),
      C GROUP(1,RATS(RATNUM)), $GROUP(2,RATS(RATNUM)),
      C (PPERM(COMPNT,DAYPRM(DAY,BLKPRM(BLOCK))), COMPNT=1,3),
      C (GROUP(Q(I,DAY),RATS(RATNUM)),I=1,3), DAY=DAYNUM,DAYMUN)
0044      901 FORMAT(T20,3(I3.4X,A1,I7,F5.1.4X,3I1,3X,3I1,7X))
0045      100 WRITE(3,902)
0046      902 FORMAT(/)
0047      110 READ(1,902,END=120)
0048          GOTO 110
0049      120 CALL EXIT
0050          END

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| LOC    | OBJECT CODE    | ADDR1 | ADDR2 | STMT | SOURCE STATEMENT   | FDOS CL3-5 08/27/70 |
|--------|----------------|-------|-------|------|--|---------------------|
|        |                |       |       | 2    | *****  |                     |
|        |                |       |       | 3    | *  |                     |
|        |                |       |       | 4    | *  |                     |
|        |                |       |       | 5    | SUBROUTINE RANDOM GENERATES A PSEUDO-RANDOM SERIES OF THE              |                     |
|        |                |       |       | 6    | DIGITS 0-9 USING AN ALGORITHM ESPECIALLY CHOSEN FOR USE WITH           |                     |
|        |                |       |       | 7    | THE 32 BIT GENERAL PURPOSE REGISTERS OF THE S/360 COMPUTERS            |                     |
|        |                |       |       | 8    | (LEWIS, GOODMAN, & MILLER, 1969). THE NUMBERS ARE GENERATED            |                     |
|        |                |       |       | 9    | BY THE FORMULA $X(I+1)=MOD(P,A*X(I))$ , WHERE 'P' IS THE LARGEST       |                     |
|        |                |       |       | 10   | PRIME NUMBER WHICH CAN FIT IN A 32 BIT REGISTER AND 'A' IS A           |                     |
|        |                |       |       | 11   | POSITIVE PRIMITIVE ROOT OF 'P'. $P = (2^{*31})-1$ , AND $A = 7^{*5}$ . |                     |
|        |                |       |       | 12   | THE PAPER CITED REPORTS THE RATIONALE FOR CHUSING THE PARTIC-          |                     |
|        |                |       |       | 13   | ULAR VALUE OF 'A' USED, AS WELL AS EMPIRICAL TESTS OF THE              |                     |
|        |                |       |       | 14   | GENERATOR ON S/360 COMPUTERS.  |                     |
|        |                |       |       | 15   | *  |                     |
|        |                |       |       | 16   | THE PRESENT ROUTINE USES THE INTERVAL TIMER TO GENERATE THE            |                     |
|        |                |       |       | 17   | FIRST NUMBER ('SEED') USED BY THE GENERATOR, AND RELIES ON             |                     |
|        |                |       |       | 18   | VARIABILITY IN THE LATENCY OF RESPONSE TO A MESSAGE DISPLAYED          |                     |
|        |                |       |       | 19   | ON THE CONSOLE TO INSURE THAT THE TIMER WILL BE DIFFERENT FOR          |                     |
|        |                |       |       | 20   | SEPARATE INVOCATIONS OF THE PROGRAM.                                   |                     |
|        |                |       |       | 21   | *  |                     |
|        |                |       |       | 22   | ALTHOUGH FULLWORD RANDOM INTEGERS ARE GENERATED AND USED IN            |                     |
|        |                |       |       | 23   | CALCULATING SUCCEEDING NUMBERS, ONLY HALFWORD NUMBERS OF VALUE         |                     |
|        |                |       |       | 24   | ZERO TO NINE ARE RETURNED TO THE CALLING PROGRAM.                      |                     |
|        |                |       |       | 25   | *  |                     |
|        |                |       |       | 26   | FORTRAN CALLING SEQUENCE-  |                     |
|        |                |       |       | 27   | INTEGER*2 RAND(80)   |                     |
|        |                |       |       | 28   | CALL RANDOM(RAND)  |                     |
|        |                |       |       | 29   | RAND IS FILLED WITH 80 RANDOM DIGITS EACH TIME THE SUB-                |                     |
|        |                |       |       | 30   | ROUTINE IS CALLED.   |                     |
|        |                |       |       | 31   | *  |                     |
|        |                |       |       | 32   | REFERENCE  |                     |
|        |                |       |       | 33   | LEWIS, P.A.W., GOODMAN, A.S., AND MILLER, J.M. A PSEUDO-               |                     |
|        |                |       |       | 34   | RANDOM NUMBER GENERATOR FOR THE SYSTEM/360. <u>IBM</u>                 |                     |
|        |                |       |       | 35   | <u>SYSTEMS JOURNAL</u> , 1969,8,136-146.                               |                     |
|        |                |       |       | 36   | *****  |                     |
| 000000 |                |       |       | 37   | RANDOM CSECT   |                     |
|        |                |       |       | 38   | PRINT NOGEN  |                     |
|        |                |       |       | 39   | EXTRN SYSLOG   |                     |
|        |                |       |       | 40   | ENTRY MESSAGE  |                     |
| 000000 |                |       |       | 41   | USING *,3  |                     |
|        |                |       |       | 42   | *  |                     |
| 000000 | 47FF 000C      |       | 0000C | 43   | BC 15,12(15)   |                     |
| 000004 | 06D9C1D5C4D6D4 |       |       | 44   | DC X'D6',C'RANDOM' FOR FORTRAN TRACEBACK                               |                     |
|        |                |       |       | 45   | SAVE (14,9)  |                     |
| 000010 | 183F           |       |       | 48   | LR 3,15 BASE REGISTER  |                     |
| 000012 | 5891 0000      |       | 00000 | 49   | L 9,0(1) ADDRESS OF 80 HALFWORD BUFFER                                 |                     |
| 000016 | 9180 30C0      | 000C0 |       | 50   | TM FLAG,X'80' TEST IF SEED HAS BEEN INITIALIZED                        |                     |
| 00001A | 4710 3052      |       | 00052 | 51   | BC 1,RAND2   |                     |
|        |                |       |       | 52   | *  |                     |
|        |                |       |       | 53   | INITIALIZE ROUTINE WITH VALUE OF SYSTEM TIMER AS 'SEED'                |                     |
|        |                |       |       | 54   | *  |                     |

| LOC    | OBJECT CODE      | ADDR1 | ADDR2 | STMT  | SOURCE STATEMENT                                       | FDOS CL3-5 08/27/70 |
|--------|------------------|-------|-------|-------|--|---------------------|
| 00001E | 4540 3084        |       | 00084 | 55    | BAL 4,GETIME   |                     |
| 000022 | 1851             |       |       | 56    | LR 5,1   |                     |
| 000024 | 4120 0028        |       | 00028 | 57    | RAND1 LA 2,40 LENGTH OF CONSOLE MESSAGE                |                     |
| 000028 | 5810 30C8        |       | 000C8 | 58    | L 1,=V(CONSOLE)  |                     |
|        |                  |       |       | 59    | PUT (1)  |                     |
|        |                  |       |       | 64    | GET (1)  |                     |
| 00003C | 4540 3084        |       | 00084 | 69    | BAL 4,GETIME   |                     |
| 000040 | 1951             |       |       | 70    | CR 5,1 CHECK IF TIMER WAS ON                           |                     |
| 000042 | 4780 3024        |       | 00024 | 71    | BC 8,RAND1   |                     |
| 000046 | 5010 3094        |       | 00094 | 72    | ST 1,LASTONE   |                     |
| 00004A | 9601 3097        | 00097 |       | 73    | OI LASTONE+3,X*01' BE SURE SEED IS ODD                 |                     |
| 00004E | 9680 30C0        | 000C0 |       | 74    | OI FLAG,X*80'  |                     |
|        |                  |       |       | 75 *  |  |                     |
|        |                  |       |       | 76 *  | GENERATE 80 RANDOM DIGITS                              |                     |
|        |                  |       |       | 77 *  |  |                     |
| 000052 | 4850 30D4        |       | 000D4 | 78    | RAND2 LH 5,=H*1'                                       |                     |
| 000056 | 4840 30D6        |       | 000D6 | 79    | LH 4,=H*-78'   |                     |
| 00005A | 4870 3008        |       | 000D8 | 80    | RAND3 LH 7,=H*16807' 7**5                              |                     |
| 00005E | 5C60 3094        |       | 00094 | 81    | M 6,LASTONE  |                     |
| 000062 | 5D60 30CC        |       | 000CC | 82    | D 6,=F*2147483647' (2**31)-1                           |                     |
| 000066 | 5060 3094        |       | 00094 | 83    | ST 6,LASTONE   |                     |
| 00006A | 1876             |       |       | 84    | LR 7,6   |                     |
| 00006C | 1866             |       |       | 85    | SR 6,6   |                     |
| 00006E | 5D60 30D0        |       | 000D0 | 86    | D 6,=F*10' CONVERT TO MODULO 10                        |                     |
| 000072 | 4069 0000        |       | 00000 | 87    | STH 6,0(9) STORE REMAINDER IN BUFFER                   |                     |
| 000076 | 4199 0002        |       | 00002 | 88    | LA 9,2(9) INCREMENT BUFFER INDEX                       |                     |
| 00007A | 8745 305A        |       | 0005A | 89    | BXLE 4,5,RAND3   |                     |
|        |                  |       |       | 90    | RETURN (14,9)  |                     |
|        |                  |       |       | 94 *  |  |                     |
|        |                  |       |       | 95 *  | SYSTEM TIMER MACRO                                     |                     |
|        |                  |       |       | 96 *  |  |                     |
| 000090 | 07F4             |       |       | 97    | GETIME GETIME TU                                       |                     |
|        |                  |       |       | 103   | BCR 15,4   |                     |
|        |                  |       |       | 104 * |  |                     |
|        |                  |       |       | 105 * | CONSTANTS & LITERALS                                   |                     |
|        |                  |       |       | 106 * |  |                     |
| 000094 |                  |       |       | 107   | LASTONE DS F   |                     |
| 000098 | C2C540E2E4D9C540 |       |       | 108   | MESSAGE DC C'BE SURE TIMER IS ON AND THEN PRESS E-O-B' |                     |
| 0000C0 | 00               |       |       | 109   | FLAG DC X'00'  |                     |
|        |                  |       |       | 110   | END  |                     |
| 0000C8 | 00000000         |       |       | 111   | =V(CONSOLE)  |                     |
| 0000CC | 7FFFFFFF         |       |       | 112   | =F*2147483647'   |                     |
| 0000D0 | 0000000A         |       |       | 113   | =F*10'   |                     |
| 0000D4 | 0001             |       |       | 114   | =H*1'  |                     |
| 0000D6 | FFB2             |       |       | 115   | =H*-78'  |                     |
| 0000D8 | 41A7             |       |       | 116   | =H*16807'  |                     |

| BLOCK | 7     | DAY 1 | DATE RUN= |         |     |
|-------|-------|-------|-----------|---------|-----|
| RAT   | GROUP | TAU   | P-D       | P-DELTA | Q   |
| 1     | A     | 500   | 0.1       | 201     | 201 |
| 2     | C     | 500   | 1.0       | 201     | 201 |
| 3     | B     | 500   | 0.1       | 201     | 021 |
| 4     | D     | 500   | 1.0       | 201     | 021 |
| 5     | D     | 500   | 1.0       | 201     | 021 |
| 6     | A     | 500   | 0.1       | 201     | 201 |
| 7     | B     | 500   | 0.1       | 201     | 021 |
| 8     | D     | 500   | 1.0       | 201     | 021 |
| 9     | X     | 1     | 0.1       | 201     | 201 |
| 10    | C     | 500   | 1.0       | 201     | 201 |
| 11    | C     | 500   | 1.0       | 201     | 201 |
| 12    | D     | 500   | 1.0       | 201     | 021 |
| 13    | X     | 1     | 0.1       | 201     | 201 |
| 14    | A     | 500   | 0.1       | 201     | 201 |
| 15    | D     | 500   | 1.0       | 201     | 021 |
| 16    | C     | 500   | 1.0       | 201     | 201 |
| 17    | B     | 500   | 0.1       | 201     | 021 |
| 18    | C     | 500   | 1.0       | 201     | 201 |
| 19    | X     | 1     | 0.1       | 201     | 201 |
| 20    | A     | 500   | 0.1       | 201     | 201 |
| 21    | A     | 500   | 0.1       | 201     | 201 |
| 22    | B     | 500   | 0.1       | 201     | 021 |
| 23    | B     | 500   | 0.1       | 201     | 021 |
| 24    | X     | 1     | 0.1       | 201     | 201 |

| BLOCK | 7     | DAY 2 | DATE RUN= |         |     |
|-------|-------|-------|-----------|---------|-----|
| RAT   | GROUP | TAU   | P-D       | P-DELTA | Q   |
| 1     | A     | 500   | 0.1       | 120     | 120 |
| 2     | C     | 500   | 1.0       | 120     | 120 |
| 3     | B     | 500   | 0.1       | 120     | 102 |
| 4     | D     | 500   | 1.0       | 120     | 102 |
| 5     | D     | 500   | 1.0       | 120     | 102 |
| 6     | A     | 500   | 0.1       | 120     | 120 |
| 7     | B     | 500   | 0.1       | 120     | 102 |
| 8     | D     | 500   | 1.0       | 120     | 102 |
| 9     | X     | 1     | 0.1       | 120     | 120 |
| 10    | C     | 500   | 1.0       | 120     | 120 |
| 11    | C     | 500   | 1.0       | 120     | 120 |
| 12    | D     | 500   | 1.0       | 120     | 102 |
| 13    | X     | 1     | 0.1       | 120     | 120 |
| 14    | A     | 500   | 0.1       | 120     | 120 |
| 15    | D     | 500   | 1.0       | 120     | 102 |
| 16    | C     | 500   | 1.0       | 120     | 120 |
| 17    | B     | 500   | 0.1       | 120     | 102 |
| 18    | C     | 500   | 1.0       | 120     | 120 |
| 19    | X     | 1     | 0.1       | 120     | 120 |
| 20    | A     | 500   | 0.1       | 120     | 120 |
| 21    | A     | 500   | 0.1       | 120     | 120 |
| 22    | B     | 500   | 0.1       | 120     | 102 |
| 23    | B     | 500   | 0.1       | 120     | 102 |
| 24    | X     | 1     | 0.1       | 120     | 120 |

| BLOCK | 7     | DAY 3 | DATE RUN= |         |     |
|-------|-------|-------|-----------|---------|-----|
| RAT   | GROUP | TAU   | P-D       | P-DELTA | Q   |
| 1     | A     | 500   | 0.1       | 102     | 102 |
| 2     | C     | 500   | 1.0       | 102     | 102 |
| 3     | B     | 500   | 0.1       | 102     | 120 |
| 4     | D     | 500   | 1.0       | 102     | 120 |
| 5     | D     | 500   | 1.0       | 102     | 120 |
| 6     | A     | 500   | 0.1       | 102     | 102 |
| 7     | B     | 500   | 0.1       | 102     | 120 |
| 8     | D     | 500   | 1.0       | 102     | 120 |
| 9     | X     | 1     | 0.1       | 102     | 102 |
| 10    | C     | 500   | 1.0       | 102     | 102 |
| 11    | C     | 500   | 1.0       | 102     | 102 |
| 12    | D     | 500   | 1.0       | 102     | 120 |
| 13    | X     | 1     | 0.1       | 102     | 102 |
| 14    | A     | 500   | 0.1       | 102     | 102 |
| 15    | D     | 500   | 1.0       | 102     | 120 |
| 16    | C     | 500   | 1.0       | 102     | 102 |
| 17    | B     | 500   | 0.1       | 102     | 120 |
| 18    | C     | 500   | 1.0       | 102     | 102 |
| 19    | X     | 1     | 0.1       | 102     | 102 |
| 20    | A     | 500   | 0.1       | 102     | 102 |
| 21    | A     | 500   | 0.1       | 102     | 102 |
| 22    | B     | 500   | 0.1       | 102     | 120 |
| 23    | B     | 500   | 0.1       | 102     | 120 |
| 24    | X     | 1     | 0.1       | 102     | 102 |

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