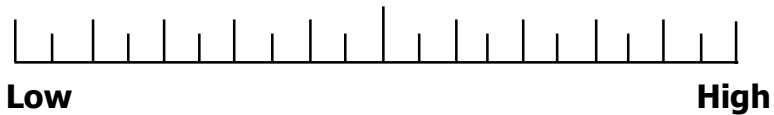


# Assessment of Cognitive Workload using the NASA-TLX

## RATING SHEET

Please indicate your ratings for the contributions of each of the following dimensions to your task.

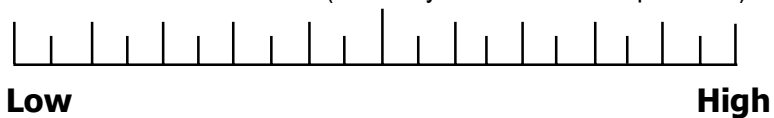
**MENTAL DEMAND** (Simple or Complex - thinking, deciding, calculating, searching, remembering etc.)



**PHYSICAL DEMAND** (Slack or Strenuous - physical exertion/activity, controlling, activating)



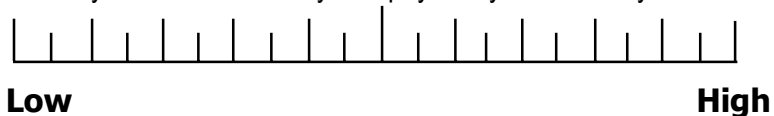
**TEMPORAL DEMAND** (Leisurely or Frantic - time pressure)



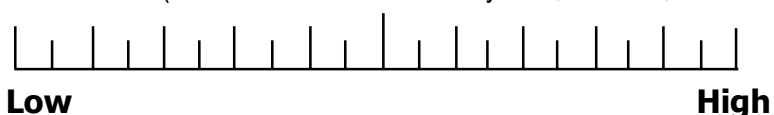
**PERFORMANCE** (success in accomplishing the task)



**EFFORT** (how hard you worked mentally and physically to achieve your level of performance)



**FRUSTRATION** (Stressed or relaxed – annoyance, irritation, discouraged)



Score 0 on left to 100 on right.

# WEIGHTINGS

Please select (circle) the member of each pair of dimensions that contributed more to the workload (you may only select one or the other) for completing your task:

1. Did the task require more **PHYSICAL DEMAND** (physical exertion) or more **FRUSTRATION** (irritation, discouraged)?
2. Did the task require more **EFFORT** (how hard you worked) or more **PHYSICAL DEMAND** (physical exertion)?
3. Did the task require more **TEMPORAL DEMAND** (time pressure) or create **FRUSTRATION** (irritation, discouraged)?
4. Did the task require more **TEMPORAL DEMAND** (time pressure) or more **EFFORT** (how hard you worked)?
5. Did the task require more **EFFORT** (how hard you worked) or was the nature of the **PERFORMANCE** (success in accomplishing the task) more of a contributor?
6. Did the task require more **PERFORMANCE** (success in accomplishing the task) or lead to **FRUSTRATION** (irritation, discouraged)?
7. Did the task require more **PHYSICAL DEMAND** (physical exertion) or was there more **TEMPORAL DEMAND** (time pressure)?
8. Did the task require more **PHYSICAL DEMAND** (physical exertion) or was the nature of the **PERFORMANCE** (success in accomplishing the task) more of a contributor?
9. Did the task require more **TEMPORAL DEMAND** (time pressure) or more **MENTAL DEMAND** (thinking, deciding, remembering etc.)?
10. Did the task lead to **FRUSTRATION** (irritation, discouraged) or did the task require more **EFFORT** (how hard you worked)?
11. Was the nature of the **PERFORMANCE** (success in accomplishing the task) more of a contributor than **MENTAL DEMAND** (thinking, deciding, remembering etc.)?
12. Was the nature of the **PERFORMANCE** (success in accomplishing the task) more of a contributor than **TEMPORAL DEMAND** (time pressure)?
13. Did the task require more **MENTAL DEMAND** (thinking, deciding, remembering etc.) or more **EFFORT** (how hard you worked)?
14. Did the task require more **MENTAL DEMAND** (thinking, deciding, remembering etc.) or more **PHYSICAL DEMAND** (physical exertion)?
15. Did the task lead to **FRUSTRATION** (irritation, discouraged) or did the task require more **MENTAL DEMAND** (thinking, deciding, remembering etc.)?

## WORKLOAD CALCULATION SHEET

| SCALE           | SCALE WEIGHTING<br>NUMBER OF TIMES<br>THIS SCALE WAS<br>CIRCLED (0 to 5) | RAW RATING<br>(Out of 100) | ADJUSTED RATING<br>- WEIGTING X RAW<br>RATING |
|-----------------|--|----------------------------|---|
| MENTAL DEMAND   |  |                            |   |
| PHYSICAL DEMAND |  |                            |   |
| TEMPORAL DEMAND |  |                            |   |
| PERFORMANCE     |  |                            |   |
| EFFORT          |  |                            |   |
| FRUSTRATION     |  |                            |   |
|                 | Total should be 15   |                            | Total Adjusted<br>Rating =                    |

**WEIGHTED RATING** = (Total Adjusted Ratings) divided by 15 =