

ภาคผนวก ง

ค่าคะแนนท่าทางการทำงาน (RULA) ของผู้ถูกทดลองคนที่ 1-5 หลังการปรับปรุงสถานีการทำงาน

RULA Employee Assessment Worksheet

Complete this worksheet following the step-by-step procedure below. Keep a copy in the employee's personnel folder for future reference.

A. Arm & Wrist Analysis

Step 1: Locate Upper Arm Position
If shoulder is raised: +1
If arm is extended or flexed: +1
If arm is supported or padded: -1

Step 2: Locate Lower Arm Position
If wrist is bent: +1
If wrist is twisted: +1
If wrist is at or near end of reaching range: +2

Step 3: Locate Wrist Position
If wrist is bent: +1
If wrist is twisted: +1
If wrist is at or near end of reaching range: +2

Step 4: Wrist Twist
If wrist is twisted: +1
If wrist is at or near end of reaching range: +2

Step 5: Look-up Posture Score in Table A
Use values from steps 1, 2, & 4 to locate Posture Score in Table A.

Step 6: Add Muscle Use Score
If posture mainly static: 0
If action repetitive: 1
If action strenuous or more: +1

Step 7: Add Force/Load Score
If 2 kg to 5 kg (static or repeated): +1
If 5 kg to 10 kg (static or repeated): +2
If more than 10 kg (static or repeated or shock): +3

Step 8: Find Row in Table C
The combined score from the Arm/Wrist analysis is used to find the row on Table C.

B. Neck, Trunk & Leg Analysis

Step 9: Locate Neck Position
If neck is bent: +1
If neck is twisted: +1
If neck is supported or padded: -1

Step 10: Locate Trunk Position
If trunk is bent: +1
If trunk is twisted: +1
If trunk is at or near end of reaching range: +2

Step 11: Legs
If legs are bent: +1
If legs are supported or padded: -1

Step 12: Look-up Posture Score in Table B
Use values from steps 9, 10, & 11 to locate Posture Score in Table B.

Step 13: Add Muscle Use Score
If posture mainly static: 0
If action repetitive or more: +1
If action strenuous or more: +1

Step 14: Add Force/Load Score
If 2 kg to 5 kg (static or repeated): +1
If 5 kg to 10 kg (static or repeated): +2
If more than 10 kg (static or repeated or shock): +3

Step 15: Find Column in Table C
The combined score from the Neck/Trunk/Leg analysis is used to find the column on Table C.

Final Score = 3/3

Subject: นางสาวกนกพร นิลนาค
Company: บริษัท ไทยพาณิชย์ จำกัด

Final Score = 4/4

Date: 17/1/51
Department: Marketing
Score: 7

FINAL SCORE: 1 or 2 = Acceptable; 3 or 4 Investigate further; 5 or 6 Investigate further and change soon; 7 Investigate and change immediately

Source: McLennan, L. & Corlett, E.N. (1993) RULA: a survey method for the investigation of work-related upper limb disorders. *Applied Ergonomics*, 24(2) 91-99.
© Professor Alan Hedge, Cornell University, Feb. 2001

ภาพที่ ง-1

ค่าคะแนนท่าทางการทำงาน (RULA) ของผู้ถูกทดลองคนที่ 1 หลังการปรับปรุงสถานีการทำงาน

RULA Employee Assessment Worksheet

Complete this worksheet following the step-by-step procedure below. Keep a copy in the employee's personnel folder for future reference.

A. Arm & Wrist Analysis

Step 1: Locate Upper Arm Position
 0° to 30° = 1
 30° to 45° = 2
 45° to 90° = 3
 90° to 135° = 4
 135° to 180° = 5

Step 2: Locate Lower Arm Position
 0° to 30° = 1
 30° to 45° = 2
 45° to 90° = 3
 90° to 135° = 4
 135° to 180° = 5

Step 3: Locate Wrist Position
 0° to 15° = 1
 15° to 30° = 2
 30° to 45° = 3
 45° to 60° = 4
 60° to 75° = 5
 75° to 90° = 6
 90° to 105° = 7
 105° to 120° = 8
 120° to 135° = 9
 135° to 150° = 10
 150° to 165° = 11
 165° to 180° = 12

Step 4: Wrist Twist
 If wrist is bent from the midline = 1
 If wrist is bent from the midline = 2
 If wrist is bent from the midline = 3
 If wrist is bent from the midline = 4
 If wrist is bent from the midline = 5
 If wrist is bent from the midline = 6
 If wrist is bent from the midline = 7
 If wrist is bent from the midline = 8
 If wrist is bent from the midline = 9
 If wrist is bent from the midline = 10
 If wrist is bent from the midline = 11
 If wrist is bent from the midline = 12

Step 5: Look-up Posture Score in Table A
 Use values from steps 1, 2, 3 & 4 to locate Posture Score in Table A.

Step 6: Add Muscle Use Score
 If posture mostly static (i.e. held for longer than 1 minute) or if action repeatedly occurs 4 times per minute or more = 1
 If posture mostly static (i.e. held for longer than 1 minute) or if action repeatedly occurs 4 times per minute or more = 2
 If posture mostly static (i.e. held for longer than 1 minute) or if action repeatedly occurs 4 times per minute or more = 3
 If posture mostly static (i.e. held for longer than 1 minute) or if action repeatedly occurs 4 times per minute or more = 4
 If posture mostly static (i.e. held for longer than 1 minute) or if action repeatedly occurs 4 times per minute or more = 5
 If posture mostly static (i.e. held for longer than 1 minute) or if action repeatedly occurs 4 times per minute or more = 6
 If posture mostly static (i.e. held for longer than 1 minute) or if action repeatedly occurs 4 times per minute or more = 7
 If posture mostly static (i.e. held for longer than 1 minute) or if action repeatedly occurs 4 times per minute or more = 8
 If posture mostly static (i.e. held for longer than 1 minute) or if action repeatedly occurs 4 times per minute or more = 9
 If posture mostly static (i.e. held for longer than 1 minute) or if action repeatedly occurs 4 times per minute or more = 10
 If posture mostly static (i.e. held for longer than 1 minute) or if action repeatedly occurs 4 times per minute or more = 11
 If posture mostly static (i.e. held for longer than 1 minute) or if action repeatedly occurs 4 times per minute or more = 12

Step 7: Add Force/Load Score
 If load less than 2 kg (intermittent) = 1
 If load less than 2 kg (intermittent) = 2
 If load less than 2 kg (intermittent) = 3
 If load less than 2 kg (intermittent) = 4
 If load less than 2 kg (intermittent) = 5
 If load less than 2 kg (intermittent) = 6
 If load less than 2 kg (intermittent) = 7
 If load less than 2 kg (intermittent) = 8
 If load less than 2 kg (intermittent) = 9
 If load less than 2 kg (intermittent) = 10
 If load less than 2 kg (intermittent) = 11
 If load less than 2 kg (intermittent) = 12

Step 8: Find Row in Table C
 The completed scores from the Arm/Wrist analysis is used to find the row on Table C.

Table A

Upper Arm	Lower Arm	Wrist	Wrist Twist	Posture Score
1	1	1	1	1
1	1	2	2	2
1	1	3	3	3
1	1	4	4	4
1	1	5	5	5
1	1	6	6	6
1	1	7	7	7
1	1	8	8	8
1	1	9	9	9
1	1	10	10	10
1	1	11	11	11
1	1	12	12	12
1	2	1	1	1
1	2	2	2	2
1	2	3	3	3
1	2	4	4	4
1	2	5	5	5
1	2	6	6	6
1	2	7	7	7
1	2	8	8	8
1	2	9	9	9
1	2	10	10	10
1	2	11	11	11
1	2	12	12	12
1	3	1	1	1
1	3	2	2	2
1	3	3	3	3
1	3	4	4	4
1	3	5	5	5
1	3	6	6	6
1	3	7	7	7
1	3	8	8	8
1	3	9	9	9
1	3	10	10	10
1	3	11	11	11
1	3	12	12	12
1	4	1	1	1
1	4	2	2	2
1	4	3	3	3
1	4	4	4	4
1	4	5	5	5
1	4	6	6	6
1	4	7	7	7
1	4	8	8	8
1	4	9	9	9
1	4	10	10	10
1	4	11	11	11
1	4	12	12	12
1	5	1	1	1
1	5	2	2	2
1	5	3	3	3
1	5	4	4	4
1	5	5	5	5
1	5	6	6	6
1	5	7	7	7
1	5	8	8	8
1	5	9	9	9
1	5	10	10	10
1	5	11	11	11
1	5	12	12	12
1	6	1	1	1
1	6	2	2	2
1	6	3	3	3
1	6	4	4	4
1	6	5	5	5
1	6	6	6	6
1	6	7	7	7
1	6	8	8	8
1	6	9	9	9
1	6	10	10	10
1	6	11	11	11
1	6	12	12	12
1	7	1	1	1
1	7	2	2	2
1	7	3	3	3
1	7	4	4	4
1	7	5	5	5
1	7	6	6	6
1	7	7	7	7
1	7	8	8	8
1	7	9	9	9
1	7	10	10	10
1	7	11	11	11
1	7	12	12	12
1	8	1	1	1
1	8	2	2	2
1	8	3	3	3
1	8	4	4	4
1	8	5	5	5
1	8	6	6	6
1	8	7	7	7
1	8	8	8	8
1	8	9	9	9
1	8	10	10	10
1	8	11	11	11
1	8	12	12	12
1	9	1	1	1
1	9	2	2	2
1	9	3	3	3
1	9	4	4	4
1	9	5	5	5
1	9	6	6	6
1	9	7	7	7
1	9	8	8	8
1	9	9	9	9
1	9	10	10	10
1	9	11	11	11
1	9	12	12	12
1	10	1	1	1
1	10	2	2	2
1	10	3	3	3
1	10	4	4	4
1	10	5	5	5
1	10	6	6	6
1	10	7	7	7
1	10	8	8	8
1	10	9	9	9
1	10	10	10	10
1	10	11	11	11
1	10	12	12	12
1	11	1	1	1
1	11	2	2	2
1	11	3	3	3
1	11	4	4	4
1	11	5	5	5
1	11	6	6	6
1	11	7	7	7
1	11	8	8	8
1	11	9	9	9
1	11	10	10	10
1	11	11	11	11
1	11	12	12	12
1	12	1	1	1
1	12	2	2	2
1	12	3	3	3
1	12	4	4	4
1	12	5	5	5
1	12	6	6	6
1	12	7	7	7
1	12	8	8	8
1	12	9	9	9
1	12	10	10	10
1	12	11	11	11
1	12	12	12	12
2	1	1	1	1
2	1	2	2	2
2	1	3	3	3
2	1	4	4	4
2	1	5	5	5
2	1	6	6	6
2	1	7	7	7
2	1	8	8	8
2	1	9	9	9
2	1	10	10	10
2	1	11	11	11
2	1	12	12	12
2	2	1	1	1
2	2	2	2	2
2	2	3	3	3
2	2	4	4	4
2	2	5	5	5
2	2	6	6	6
2	2	7	7	7
2	2	8	8	8
2	2	9	9	9
2	2	10	10	10
2	2	11	11	11
2	2	12	12	12
2	3	1	1	1
2	3	2	2	2
2	3	3	3	3
2	3	4	4	4
2	3	5	5	5
2	3	6	6	6
2	3	7	7	7
2	3	8	8	8
2	3	9	9	9
2	3	10	10	10
2	3	11	11	11
2	3	12	12	12
2	4	1	1	1
2	4	2	2	2
2	4	3	3	3
2	4	4	4	4
2	4	5	5	5
2	4	6	6	6
2	4	7	7	7
2	4	8	8	8
2	4	9	9	9
2	4	10	10	10
2	4	11	11	11
2	4	12	12	12
2	5	1	1	1
2	5	2	2	2
2	5	3	3	3
2	5	4	4	4
2	5	5	5	5
2	5	6	6	6
2	5	7	7	7
2	5	8	8	8
2	5	9	9	9
2	5	10	10	10
2	5	11	11	11
2	5	12	12	12
2	6	1	1	1
2	6	2	2	2
2	6	3	3	3
2	6	4	4	4
2	6	5	5	5
2	6	6	6	6
2	6	7	7	7
2	6	8	8	8
2	6	9	9	9
2	6	10	10	10
2	6	11	11	11
2	6	12	12	12
2	7	1	1	1
2	7	2	2	2
2	7	3	3	3
2	7	4	4	4
2	7	5	5	5
2	7	6	6	6
2	7	7	7	7
2	7	8	8	8
2	7	9	9	9
2	7	10	10	10
2	7	11	11	11
2	7	12	12	12
2	8	1	1	1
2	8	2	2	2
2	8	3	3	3
2	8	4	4	4
2	8	5	5	5
2	8	6	6	6
2	8	7	7	7
2	8	8	8	8
2	8	9	9	9
2	8	10	10	10
2	8	11	11	11
2	8	12	12	12
2	9	1	1	1
2	9	2	2	2
2	9	3	3	3
2	9	4	4	4
2	9	5	5	5
2	9	6	6	6
2	9	7	7	7
2	9	8	8	8
2	9	9	9	9
2	9	10	10	10
2	9	11	11	11
2	9	12	12	12
2	10	1	1	1
2	10	2	2	2
2	10	3	3	3
2	10	4	4	4
2	10	5	5	5
2	10	6	6	6
2	10	7	7	7
2	10	8	8	8
2	10	9	9	9
2	10	10	10	10
2	10	11	11	11
2	10	12	12	12
2	11	1	1	1
2	11	2	2	2
2	11	3	3	3
2	11	4	4	4
2	11	5	5	5
2	11	6	6	6
2	11	7	7	7
2	11	8	8	8
2	11	9	9	9
2	11	10	10	10
2	11	11	11	11
2	11	12	12	12
2	12	1	1	1
2	12	2	2	2
2	12	3	3	3
2	12	4	4	4
2	12	5	5	5
2	12	6	6	6
2	12	7	7	7
2	12	8	8	8
2	12	9	9	9
2	12	10	10	10
2	12	11	11	11
2	12	12	12	12
3	1	1	1	1
3	1	2	2	2
3	1	3	3	3
3	1	4	4	4
3	1	5	5	5
3	1	6	6	6
3	1	7	7	7
3	1	8	8	8
3	1	9	9	9
3	1	10	10	

RULA Employee Assessment Worksheet

Complete this worksheet following the step-by-step procedure below. Keep a copy in the employee's personnel folder for future reference.

A. Arm & Wrist Analysis

Step 1: Locate Upper Arm Position
 0° to 20° = 1
 20° to 30° = 2
 30° to 45° = 3
 45° to 60° = 4
 60° to 90° = 5
 90° to 120° = 6
 120° to 150° = 7
 150° to 180° = 8
 If shoulder is raised = +1
 If upper arm is abducted = +1
 If arm is supported or position is leaning = -1
Final Upper Arm Score = 2/2

Step 2: Locate Lower Arm Position
 0° to 15° = 1
 15° to 30° = 2
 30° to 45° = 3
 45° to 60° = 4
 60° to 75° = 5
 75° to 90° = 6
 90° to 105° = 7
 105° to 120° = 8
 120° to 135° = 9
 135° to 150° = 10
 150° to 165° = 11
 165° to 180° = 12
 If wrist is bent from the midline = +1
Final Lower Arm Score = 1/1

Step 3: Locate Wrist Position
 0° to 15° = 1
 15° to 30° = 2
 30° to 45° = 3
 45° to 60° = 4
 60° to 75° = 5
 75° to 90° = 6
 90° to 105° = 7
 105° to 120° = 8
 120° to 135° = 9
 135° to 150° = 10
 150° to 165° = 11
 165° to 180° = 12
 If wrist is twisted mainly in mid-range = +1
 If twist at or near end of twisting range = 2
Final Wrist Score = 1/1

Step 4: Wrist Twist
 If twist is twisted mainly in mid-range = 1
 If twist at or near end of twisting range = 2
Final Wrist Twist Score = 1/1

Step 5: Look-up Posture Score in Table A
 Use values from steps 1, 2, 3 & 4 to locate Posture Score in Table A.
 Posture Score A = 3/3

Step 6: Add Muscle Use Score
 If posture mainly static (i.e. held for longer than 1 minute) or position represented by a circle in the previous table or score = +1
 If load less than 2 kg (4.4 pounds) = 0
 If 2 kg to 10 kg (4.4 to 22 pounds) = +1
 If 10 kg to 20 kg (22 to 44 pounds) = +2
 If 20 kg to 30 kg (44 to 66 pounds) = +3
 If more than 30 kg load or repeated or shock = +3
Muscle Use Score = 1/1

Step 7: Add Force/load Score
 If load less than 2 kg (4.4 pounds) = 0
 If 2 kg to 10 kg (4.4 to 22 pounds) = +1
 If 10 kg to 20 kg (22 to 44 pounds) = +2
 If 20 kg to 30 kg (44 to 66 pounds) = +3
 If more than 30 kg load or repeated or shock = +3
Force/load Score = 0/0

Step 8: Find Row in Table C
 The completed score from the Arm/Wrist analysis is used to find the row on Table C.
Final Arm & Wrist Score = 1/1

B. Neck, Trunk & Leg Analysis

Step 9: Locate Neck Position
 0° to 10° = 1
 10° to 20° = 2
 20° to 30° = 3
 30° to 40° = 4
 40° to 50° = 5
 50° to 60° = 6
 60° to 70° = 7
 70° to 80° = 8
 80° to 90° = 9
 90° to 100° = 10
 100° to 110° = 11
 110° to 120° = 12
 120° to 130° = 13
 130° to 140° = 14
 140° to 150° = 15
 150° to 160° = 16
 160° to 170° = 17
 170° to 180° = 18
 If neck is twisted = +1
 If neck is side-bending = +1
Final Neck Score = 3/3

Step 10: Locate Trunk Position
 0° to 10° = 1
 10° to 20° = 2
 20° to 30° = 3
 30° to 40° = 4
 40° to 50° = 5
 50° to 60° = 6
 60° to 70° = 7
 70° to 80° = 8
 80° to 90° = 9
 90° to 100° = 10
 100° to 110° = 11
 110° to 120° = 12
 120° to 130° = 13
 130° to 140° = 14
 140° to 150° = 15
 150° to 160° = 16
 160° to 170° = 17
 170° to 180° = 18
 If trunk is twisted = +1
 If trunk is side-bending = +1
Final Trunk Score = 3/3

Step 11: Legs
 If legs & feet supported and balanced = 1
 If not = 2
Final Leg Score = 1/1

Step 12: Look-up Posture Score in Table B
 Use values from steps 9, 10 & 11 to locate Posture Score in Table B.
 Posture Score B = 4/4

Step 13: Add Muscle Use Score
 If posture mainly static or position represented by a circle in the previous table or score = +1
 If load less than 2 kg (4.4 pounds) = 0
 If 2 kg to 10 kg (4.4 to 22 pounds) = +1
 If 10 kg to 20 kg (22 to 44 pounds) = +2
 If 20 kg to 30 kg (44 to 66 pounds) = +3
 If more than 30 kg load or repeated or shock = +3
Muscle Use Score = 0/0

Step 14: Add Force/load Score
 If load less than 2 kg (4.4 pounds) = 0
 If 2 kg to 10 kg (4.4 to 22 pounds) = +1
 If 10 kg to 20 kg (22 to 44 pounds) = +2
 If 20 kg to 30 kg (44 to 66 pounds) = +3
 If more than 30 kg load or repeated or shock = +3
Force/load Score = 0/0

Step 15: Find Column in Table C
 The completed score from the Neck/Trunk & Leg analysis is used to find the column on Table C.
Final Neck, Trunk & Leg Score = 4/4

Final Score = 4/4

Table A: Posture Score A

Upper Arm	Lower Arm	Wrist	Wrist Twist
1	1	1	1
1	1	2	1
1	1	3	1
1	1	4	1
1	1	5	1
1	1	6	1
1	1	7	1
1	1	8	1
1	1	9	1
1	1	10	1
1	1	11	1
1	1	12	1
1	2	1	1
1	2	2	1
1	2	3	1
1	2	4	1
1	2	5	1
1	2	6	1
1	2	7	1
1	2	8	1
1	2	9	1
1	2	10	1
1	2	11	1
1	2	12	1
1	3	1	1
1	3	2	1
1	3	3	1
1	3	4	1
1	3	5	1
1	3	6	1
1	3	7	1
1	3	8	1
1	3	9	1
1	3	10	1
1	3	11	1
1	3	12	1
1	4	1	1
1	4	2	1
1	4	3	1
1	4	4	1
1	4	5	1
1	4	6	1
1	4	7	1
1	4	8	1
1	4	9	1
1	4	10	1
1	4	11	1
1	4	12	1
1	5	1	1
1	5	2	1
1	5	3	1
1	5	4	1
1	5	5	1
1	5	6	1
1	5	7	1
1	5	8	1
1	5	9	1
1	5	10	1
1	5	11	1
1	5	12	1
1	6	1	1
1	6	2	1
1	6	3	1
1	6	4	1
1	6	5	1
1	6	6	1
1	6	7	1
1	6	8	1
1	6	9	1
1	6	10	1
1	6	11	1
1	6	12	1
1	7	1	1
1	7	2	1
1	7	3	1
1	7	4	1
1	7	5	1
1	7	6	1
1	7	7	1
1	7	8	1
1	7	9	1
1	7	10	1
1	7	11	1
1	7	12	1
1	8	1	1
1	8	2	1
1	8	3	1
1	8	4	1
1	8	5	1
1	8	6	1
1	8	7	1
1	8	8	1
1	8	9	1
1	8	10	1
1	8	11	1
1	8	12	1
1	9	1	1
1	9	2	1
1	9	3	1
1	9	4	1
1	9	5	1
1	9	6	1
1	9	7	1
1	9	8	1
1	9	9	1
1	9	10	1
1	9	11	1
1	9	12	1
1	10	1	1
1	10	2	1
1	10	3	1
1	10	4	1
1	10	5	1
1	10	6	1
1	10	7	1
1	10	8	1
1	10	9	1
1	10	10	1
1	10	11	1
1	10	12	1
1	11	1	1
1	11	2	1
1	11	3	1
1	11	4	1
1	11	5	1
1	11	6	1
1	11	7	1
1	11	8	1
1	11	9	1
1	11	10	1
1	11	11	1
1	11	12	1
1	12	1	1
1	12	2	1
1	12	3	1
1	12	4	1
1	12	5	1
1	12	6	1
1	12	7	1
1	12	8	1
1	12	9	1
1	12	10	1
1	12	11	1
1	12	12	1
2	1	1	1
2	1	2	1
2	1	3	1
2	1	4	1
2	1	5	1
2	1	6	1
2	1	7	1
2	1	8	1
2	1	9	1
2	1	10	1
2	1	11	1
2	1	12	1
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2	2	2	1
2	2	3	1
2	2	4	1
2	2	5	1
2	2	6	1
2	2	7	1
2	2	8	1
2	2	9	1
2	2	10	1
2	2	11	1
2	2	12	1
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2	3	3	1
2	3	4	1
2	3	5	1
2	3	6	1
2	3	7	1
2	3	8	1
2	3	9	1
2	3	10	1
2	3	11	1
2	3	12	1
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2	4	2	1
2	4	3	1
2	4	4	1
2	4	5	1
2	4	6	1
2	4	7	1
2	4	8	1
2	4	9	1
2	4	10	1
2	4	11	1
2	4	12	1
2	5	1	1
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2	5	3	1
2	5	4	1
2	5	5	1
2	5	6	1
2	5	7	1
2	5	8	1
2	5	9	1
2	5	10	1
2	5	11	1
2	5	12	1
2	6	1	1
2	6	2	1
2	6	3	1
2	6	4	1
2	6	5	1
2	6	6	1
2	6	7	1
2	6	8	1
2	6	9	1
2	6	10	1
2	6	11	1
2	6	12	1
2	7	1	1
2	7	2	1
2	7	3	1
2	7	4	1
2	7	5	1
2	7	6	1
2	7	7	1
2	7	8	1
2	7	9	1
2	7	10	1
2	7	11	1
2	7	12	1
2	8	1	1
2	8	2	1
2	8	3	1
2	8	4	1
2	8	5	1
2	8	6	1
2	8	7	1
2	8	8	1
2	8	9	1
2	8	10	1
2	8	11	1
2	8	12	1
2	9	1	1
2	9	2	1
2	9	3	1
2	9	4	1
2	9	5	1
2	9	6	1
2	9	7	1
2	9	8	1
2	9	9	1
2	9	10	1
2	9	11	1
2	9	12	1
2	10	1	1
2	10	2	1
2	10	3	1
2	10	4	1
2	10	5	1
2	10	6	1
2	10	7	1
2	10	8	1
2	10	9	1
2	10	10	1
2	10	11	1
2	10	12	1
2	11	1	1
2	11	2	1
2	11	3	1
2	11	4	1
2	11	5	1
2	11	6	1
2	11	7	1
2	11	8	1
2	11	9	1
2	11	10	1
2	11	11	1
2	11	12	1
2	12	1	1
2	12	2	1
2	12	3	1
2	12	4	1
2	12	5	1
2	12	6	1
2	12	7	1
2	12	8	1
2	12	9	1
2	12	10	1
2	12	11	1
2	12	12	1
3	1	1	1
3	1	2	1
3	1	3	1
3	1	4	1
3	1	5	1
3	1	6	1
3	1	7	1
3	1	8	1
3	1	9	1
3	1	10	1
3	1	11	1
3	1	12	1
3	2	1	1
3	2	2	1
3	2	3	1
3	2	4	1
3	2	5	1
3	2	6	1
3	2	7	1
3	2	8	1
3	2	9	1
3	2	10	1
3	2	11	1
3	2	12	1
3	3	1	1
3	3	2	1
3	3	3	1
3	3	4	1
3	3	5	1
3	3	6	1
3	3	7	1
3	3	8	1
3	3	9	1
3	3	10	1
3	3	11	1
3	3	12	1
3	4		

RULA Employee Assessment Worksheet

Complete this worksheet following the step-by-step procedure below. Keep a copy in the employee's personnel folder for future reference.

B. Neck, Trunk & Leg Analysis

Step 9: Locate Neck Position
 0° to 15° +1
 15° to 30° +2
 30° to 45° +3
 45° to 60° +4
 60° to 75° +5
 75° to 90° +6

Step 10: Locate Trunk Position
 0° to 15° +1
 15° to 30° +2
 30° to 45° +3
 45° to 60° +4
 60° to 75° +5
 75° to 90° +6

Step 11: Legs
 0° to 15° +1
 15° to 30° +2
 30° to 45° +3
 45° to 60° +4
 60° to 75° +5
 75° to 90° +6

Table A

Neck	Trunk	Legs	Final Neck Score	Final Trunk Score	Final Leg Score
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6

Table B

Neck	Trunk	Legs	Final Neck Score	Final Trunk Score	Final Leg Score
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6

Table C

Neck	Trunk	Legs	Final Neck Score	Final Trunk Score	Final Leg Score
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6

Final Score = 3/3

Subject: สมชาย ใจดี **Company:** TCC **Department:** Construction **Score:** 3 **Date:** 16/5/51

FINAL SCORE: 1 or 2 = Acceptable; 3 or 4 Investigate further; 5 or 6 Investigate further and change soon; 7 Investigate and change immediately

Source: McAtamney, L. & Corlett, E.N. (1993) RULA: a survey method for the investigation of work-related upper limb disorders, *Applied Ergonomics*, 24(2) 91-99.

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ภาพที่ ๖-5

ค่าคะแนนท่าทางการทำงาน (RULA) ของผู้ถูกทดลองคนที่ 5 หลังการปรับปรุงสถานการณ์การทำงาน