

Usulan Perbaikan Beban Postur Tubuh Pada Stasiun Mesin Bubut Menggunakan Metode *Quick Exposure Check (QEC)* Pada PT Sunrise Abadi

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ABSTRAK

Stasiun kerja yang pada mesin bubut merupakan stasiun kerja yang sering mendapatkan keluhan dari pekerja di PT Sunrise Abadi, karena sering merasakan kelelahan dan merasakan masalah yang terjadi pada bagian tulang belakang operator. Penyebab terdapatnya banyaknya keluhan yang disampaikan operator adalah karena postur tubuh operator yang kurang baik saat melakukan pekerjaan. Metode Quick Exposure Check metode subjektif yang digunakan untuk mengetahui risiko cedera yang terjadi terhadap beban postur tubuh. Penggunaan Metode Quick Exposure Check terdiri dari beberapa tahap yang akan menghasilkan nilai exposure level untuk melihat hasil klasifikasi yang terjadi yang akan digunakan perusahaan untuk mengambil keputusan dalam mengatasi permasalahan yang terjadi. Nilai exposure level yang diperoleh berdasarkan hasil penggunaan Metode Quick Exposure Check adalah 69,75%. Hasil nilai exposure level menunjukkan perlu dilakukannya perbaikan dan perawatan pada setiap mesin yang digunakan khususnya pada pada stasiun kerja mesin bubut untuk mengurangi usaha lebih yang dilakukan operator dalam melakukan pekerjaan.

Kata Kunci: *beban postur tubuh, quick exposure check, exposure level*

ABSTRACT

The work station on a lathe is a work station that often gets complaints from workers at PT Sunrise Abadi, because they often feel tired and feel problems that occur in the operator's spine. The cause of the number of complaints submitted by operators is due to the operator's poor posture when doing work. The Quick Exposure Check method is a subjective method used to determine the risk of injury that occurs to the burden of body posture. The use of the Quick Exposure Check Method consists of several stages that will produce an exposure level value to see the classification results that occur which the company will use to make decisions in overcoming the problems that occur. The exposure level value obtained based on the results of using the Quick Exposure Check Method is 69.75%. The results of the exposure level value indicate the need for repair and maintenance on each machine used, especially at the lathe work station to reduce the extra effort made by the operator in doing the job.

Keyword: *body posture load, quick exposure check, exposure level*

1. PENDAHULUAN

1.1. Latar Belakang Masalah

PT Sunrise Abadi merupakan perusahaan yang memproduksi sparepart dan mesin-mesin produksi. Stasiun kerja yang pada mesin bubut merupakan stasiun kerja yang sering mendapatkan keluhan dari pekerja, karena sering merasakan kelelahan dan merasakan masalah yang terjadi pada bagian tulang belakang operator. Berdasarkan pengamatan yang dilakukan dan hasil wawancara terhadap operator di PT Sunrise Abadi diketahui jika operator ketika melakukan pekerjaan dan setelah melakukan melakukan pekerjaan sering mengalami keluhan rasa sakit pada bagian punggung operator. Penyebab terdapatnya banyaknya keluhan yang disampaikan operator adalah karena postur tubuh operator yang kurang baik saat melakukan pekerjaan. Dampak yang ditimbulkan jika permasalahan ini tidak segera ditangani adalah akan menyebabkan kerugian bagi perusahaan, karena kinerja dari operator dalam melakukan pekerjaan tidak akan optimal. Pemilihan penggunaan metode Quick Exposure Check (QEC) dalam penyelesaian permasalahan yang terjadi dikarenakan metode ini melakukan penilaian terhadap resiko kerja yang berhubungan dengan gangguan otot pada tempat kerja (Benekdita. 2016). Fungsi utama dari metode Quick Exposure Check (QEC) adalah untuk mencegah terjadinya Work-related Musculoskeletal (WMSDs) yang dialami oleh operator dengan penanganan material secara manual (Martaleo, 2012).

1.2. Permasalahan

Permasalahan yang terjadi di PT Sunrise Abadi adalah keluhan rasa sakit yang sering dirasakan oleh operator yang bekerja. Keluhan rasa sakit yang dirasakan operator terdapat pada beberapa bagian tubuh yaitu bagian punggung, bahu, lengan, pergelangan tangan, tangan, serta leher. Penyebab keluhan rasa sakit yang dirasakan operator disebabkan oleh postur tubuh yang kurang baik saat melakukan proses produksi produk kopling flens yang dilakukan pada stasiun kerja mesin bubut. Dampak dari keluhan yang sering dirasakan oleh operator adalah kinerja dari operator saat melakukan pekerjaannya akan menurun atau tidak optimal, hal tersebut dikarenakan keluhan rasa sakit yang tidak segera diatasi yang akan menyebabkan kelainan pada tulang belakang dan akan cepat merasakan lelah saat melakukan aktifitas pekerjaan yang berat dan dalam waktu yang lama. Penggunaan metode Quick Exposure Check (QEC) dapat berguna untuk untuk mengetahui postur tubuh operator dari pengamat dan operatornya tersendiri, sehingga dapat diketahui klasifikasi exposure level dari pekerjaan yang dilakukan operator pada stasiun kerja (Benedikta, 2016). Hasil dari penggunaan metode Quick Exposure Check (QEC) dapat digunakan untuk perusahaan sebagai dasar dalam pengambilan keputusan untuk mengatasi permasalahan yang terjadi dengan melihat hasil klasifikasi dari metode Quick Exposure Check (QEC).

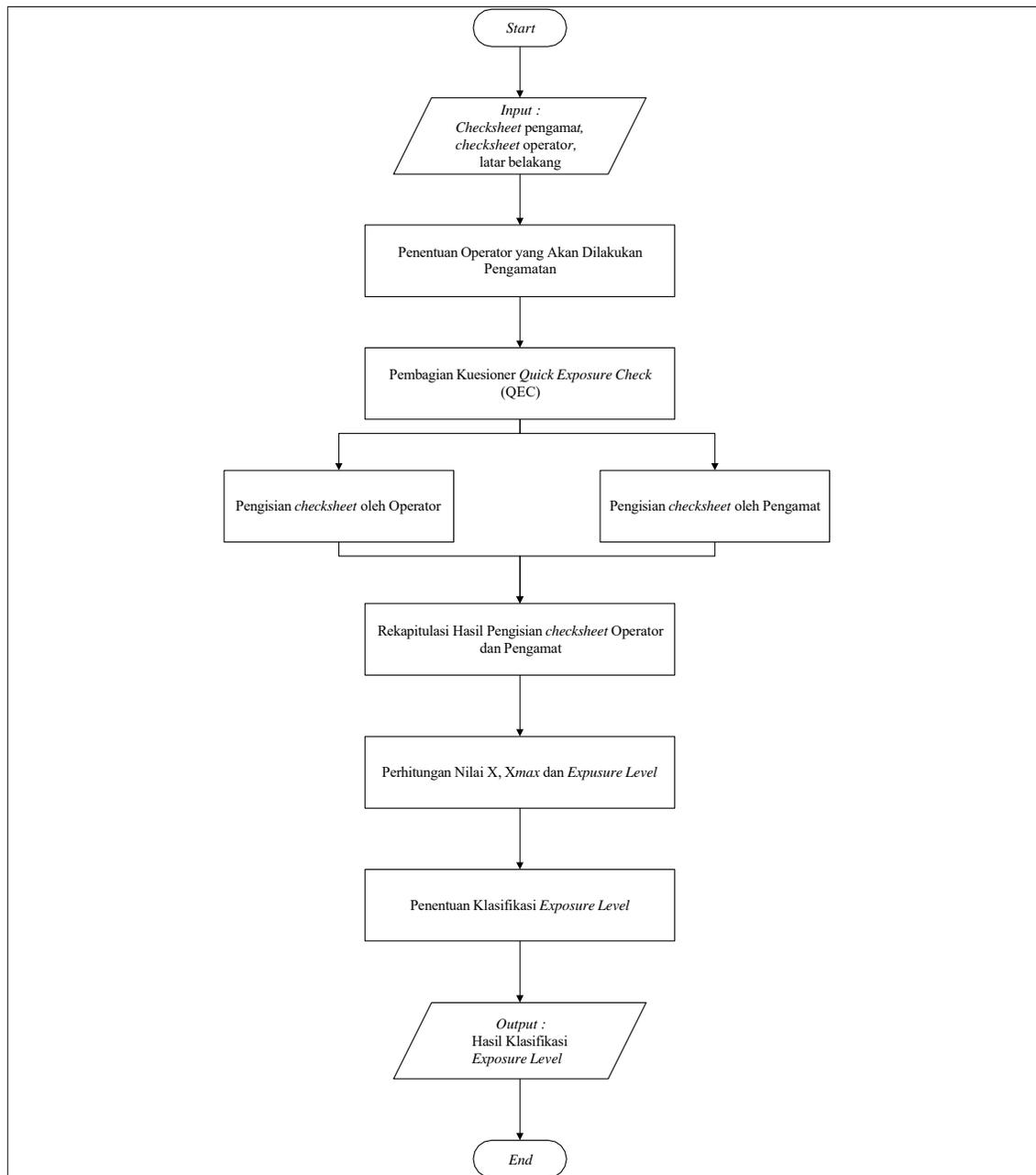
1.3. Tujuan

Tujuan dari penelitian ini adalah memberikan usulan perbaikan postur tubuh untuk melihat resiko dari pekerjaan yang dilakukan dengan menggunakan metode Quick Exposure Check (QEC).

2. METODOLOGI PENELITIAN

Tahapan dalam penelitian ini dilakukan dengan melakukan beberapa tahap, setiap tahap yang dilakukan akan saling berkaitan antara satu dengan yang lainnya untuk mendapatkan hasil akhir yaitu nilai exposure level. Tahapan dalam penggunaan metode Quick Exposure Check (QEC) dapat dilihat pada Gambar 1.

Usulan Perbaikan Beban Postur Tubuh Pada Stasiun Mesin Bubut Menggunakan Metode Quick Exposure Check (QEC) Pada PT Sunrise Abadi



Gambar 1 Tahapan Penggunaan Metode Quick Exposure Check (QEC)

Langkah awal pengerjaan yang dilakukan dalam penggunaan metode Quick Exposure Check (QEC) adalah dengan melakukan penentuan operator yang akan dilakukan pengamatan. Tahap Penentuan operator ini dilakukan pemilihan operator pada stasiun kerja mesin bubut untuk mengisi kuesioner Quick Exposure Check (QEC) untuk dilakukan pengukuran beban postur tubuh yang dilakukan secara subjektif. Pemilihan operator dilakukan berdasarkan operator yang membuat produk kopling flens pada stasiun kerja mesin bubut. Selanjutnya adalah dengan melakukan pembagian kuesioner kepada operator dan pengamat, Pembagian kuesioner dilakukan dengan memberikan checksheet untuk operator dan pengamat itu sendiri, dan waktu pembagian kuesioner dilakukan ketika jam istirahat yang terdapat pada perusahaan, sehingga tidak mengganggu operator dalam melakukan pekerjaan. Setelah melakukan penyebaran kuesioner langkah selanjutnya yang dilakukan dengan melakukan pengisian

checksheet untuk operator dan pengamat itu sendiri (Ahmad, 2013). Gambar checksheet operator dan pengamat dapat dilihat pada Gambar 1 dan Gambar 2.

| KUESIONER OPERATOR | |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NAMA OPERATOR | <input type="text"/> |
| STASIUN KERJA | <input type="text"/> |
| TANGGAL PENGISIAN | <input type="text"/> |
| H | APAKAH BERAT MAKSIMUM YANG DIANGKAT SECARA MANUAL OLEH ANDA PADA PEKERJAAN INI H1 <input type="radio"/> RINGAN (KURANG DARI 5 KG) H2 <input type="radio"/> CUKUP BERAT (6 - 10 KG) H3 <input type="radio"/> BERAT (11 - 20 KG) H4 <input type="radio"/> SANGAT BERAT (LEBIH DARI 20 KG) |
| I | BERAPA LAMA WAKTU YANG ANDA HABISKAN DALAM MELAKUKAN PEKERJAAN INI SELAMA SATU HARI I1 <input type="radio"/> KURANG DARI 2 JAM I2 <input type="radio"/> 2 HINGGA 4 JAM I3 <input type="radio"/> LEBIH DARI 4 JAM |
| J | KETIKA MELAKUKAN PEKERJAAN INI BERAPA TINGKAT KEKUATAN YANG DIGUNAKAN OLEH SATU TANGAN J1 <input type="radio"/> RENDAH (KURANG DARI 1 KG) J2 <input type="radio"/> SEDANG (ANTARA 1 SAMPAI 4 KG) J3 <input type="radio"/> TINGGI (LEBIH DARI 4 KG) |
| K | APAKAH PEKERJAAN INI MEMERLUKAN PENGEJAHATAN YANG K1 <input type="radio"/> RENDAH (TIDAK PERLU PENGEJAHATAN SECARA DETAIL) K2 <input type="radio"/> TINGGI (PERLU PENGEJAHATAN SECARA DETAIL) |
| L | KETIKA BEKERJA ANDA MENGGUNAKAN KENDARAAN SELAMA L1 <input type="radio"/> KURANG DARI 1 JAM PER HARI ATAU TIDAK PERNAH L2 <input type="radio"/> ANTARA 1 SAMPAI 4 JAM PER HARI L3 <input type="radio"/> LEBIH DARI 4 JAM PER HARI |
| M | KETIKA BEKERJA APAKAH ANDA MENGGUNAKAN ALAT YANG MENGHASILKAN GETARAN SELAMA M1 <input type="radio"/> KURANG DARI 1 JAM PER HARI ATAU TIDAK PERNAH M2 <input type="radio"/> ANTARA 1 SAMPAI 4 JAM PER HARI M3 <input type="radio"/> LEBIH DARI 4 JAM PER HARI |
| N | APAKAH ANDA MENGALAMI KESULITAN DALAM MELAKUKAN PEKERJAAN INI N1 <input type="radio"/> TIDAK N2 <input type="radio"/> TERKADANG N3 <input type="radio"/> SERING |
| O | PADA UMUMNYA, BAGAIMANA ANDA MENJALANI PEKERJAAN INI O1 <input type="radio"/> SAMA SEKALI TIDAK STRESS O2 <input type="radio"/> CUKUP STRESS O3 <input type="radio"/> STRESS O4 <input type="radio"/> SANGAT STRESS |

Gambar 2 Checksheet Operator

| KUESIONER PENGAMAT | | |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| NAMA OPERATOR | <input type="text"/> | NAMA PENGAMAT <input type="text"/> |
| STASIUN KERJA | <input type="text"/> | INSTANSI <input type="text"/> |
| | | TANGGAL PENGISIAN <input type="text"/> |
| PUNGGUNG | KETIKA MELAKUKAN PEKERJAAN, APAKAH PUNGGUNG. (PILIH KONDISI TERBURUK) | |
| A | A1 <input type="radio"/> HAMPIR NETRAL A2 <input type="radio"/> AGAK MENYUTAR ATAU MEMBUNGKUK A3 <input type="radio"/> TERLALU MENYUTAR DAN MEMBUNGKUK | |
| B | PILIH SALAH SATU DARI 2 PILIHAN BERIKUT UNTUK PEKERJAAN DALAM KEADAAN DUDUK ATAU BERDIRI SECARA STATIS, APAKAH PUNGGUNG BERADA PADA KONDISI STATIS YANG LAMA B1 <input type="radio"/> TIDAK B2 <input type="radio"/> YA | |
| ATAU | UNTUK PEKERJAAN MENANGKAT, MENDORONG/MENARIK, APAKAH PERGERAKAN PADA PUNGGUNG B3 <input type="radio"/> JARANG (<=3 KALI PER MENIT) B4 <input type="radio"/> SERING (ANTARA 4 SAMPAI 12 KALI PER MENIT) B5 <input type="radio"/> SANGAT SERING (LEBIH DARI 12 KALI PER MENIT) | |
| BAHU/LENGAN | KETIKA PEKERJAAN DILAKUKAN, APAKAH TANGAN. (PILIH KONDISI TERBURUK) | |
| C | C1 <input type="radio"/> BERADA DI SEKITAR PINGGANG ATAU LEBIH RENDAH C2 <input type="radio"/> BERADA DI SEKITAR DADA C3 <input type="radio"/> BERADA DI SEKITAR BAHU ATAU LEBIH TINGGI | |
| D | APAKAH PERGERAKAN BAHU/LENGAN D1 <input type="radio"/> JARANG D2 <input type="radio"/> SERING (PERGERAKAN BIASA DISELINGI DENGAN BERHENTI SESAAT) D3 <input type="radio"/> SERING (PERGERAKAN SECARA TERUS MENERUS) | |
| PERGELANGAN TANGAN/TANGAN | APAKAH PEKERJAAN DILAKUKAN DENGAN. (PILIH SITUASI TERBURUK) | |
| E | E1 <input type="radio"/> PERGERAKAN TANGAN HAMPIR LURUS E2 <input type="radio"/> PERGELANGAN TANGAN TERTEKUK | |
| F | APAKAH GERAKAN PEKERJAAN DILAKUKAN SECARA BERULANG F1 <input type="radio"/> 10 KALI PER MENIT ATAU KURANG F2 <input type="radio"/> ANTARA 11 SAMPAI 20 KALI PER MENIT F3 <input type="radio"/> LEBIH DARI 20 KALI PER MENIT | |
| LEHER | KETIKA MELAKUKAN PEKERJAAN, APAKAH LEHER/KEPALA TERTEKUK ATAU BERPUTAR | |
| G | G1 <input type="radio"/> TIDAK G2 <input type="radio"/> YA, TERKADANG G3 <input type="radio"/> YA, SECARA TERUS MENERUS | |

Gambar 3 Checksheet Pengamat

Usulan Perbaikan Beban Postur Tubuh Pada Stasiun Mesin Bubut Menggunakan Metode Quick Exposure Check (QEC) Pada PT Sunrise Abadi

Tahap rekapitulasi hasil checksheet operator dan pengamat merupakan tahapan selanjutnya dalam penggunaan metode Quick Exposure Check (QEC). Tahap ini akan dilakukan rekapitulasi berdasarkan hasil dari pengisian kuesioner checksheet yang dilakukan oleh operator dan pengamat. Rekapitulasi tersebut akan dikelompokkan berdasarkan hasil dari pengerjaan kuesioner checksheet dari operator dan pengamat serta hasil dari kuesioner tersebut akan digolongkan menjadi hasil bagian-bagian tubuh terpilih yang berkaitan dengan beban postur tubuh pada sebuah tabel yang dibedakan menjadi dua, yaitu rekapitulasi hasil kuesioner operator dan rekapitulasi hasil kuesioner pengamat. Hasil dari kuesioner tersebut akan direkap pada rekapitulasi matriks. Gambar rekapitulasi matriks dapat dilihat pada Gambar 3.

| EXPOSURE SCORE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| NAMA OPERATOR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NRP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TANGGAL PENGISIAN | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PUNGSLUNG | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| POSISI PUNGSLUNG (A) DAN BEBAN (H) <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th>A1</th><th>A2</th><th>A3</th></tr> <tr><td>H1</td><td>2</td><td>4</td><td>6</td></tr> <tr><td>H2</td><td>4</td><td>6</td><td>8</td></tr> <tr><td>H3</td><td>6</td><td>8</td><td>10</td></tr> <tr><td>H4</td><td>8</td><td>10</td><td>12</td></tr> </table> | | | | A1 | A2 | A3 | H1 | 2 | 4 | 6 | H2 | 4 | 6 | 8 | H3 | 6 | 8 | 10 | H4 | 8 | 10 | 12 | BAHU/LENGAN <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th>TINGGI (C) DAN BEBAN (H)</th></tr> <tr><th>C1</th><th>C2</th><th>C3</th></tr> <tr><td>H1</td><td>2</td><td>4</td><td>6</td></tr> <tr><td>H2</td><td>4</td><td>6</td><td>8</td></tr> <tr><td>H3</td><td>6</td><td>8</td><td>10</td></tr> <tr><td>H4</td><td>8</td><td>10</td><td>12</td></tr> </table> | | | | TINGGI (C) DAN BEBAN (H) | C1 | C2 | C3 | H1 | 2 | 4 | 6 | H2 | 4 | 6 | 8 | H3 | 6 | 8 | 10 | H4 | 8 | 10 | 12 | PERGELANGAN TANGAN <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th>SERAKAN BERULANG (F) DAN KEKUATAN (I)</th></tr> <tr><th>F1</th><th>F2</th><th>F3</th></tr> <tr><td>I1</td><td>2</td><td>4</td><td>6</td></tr> <tr><td>I2</td><td>4</td><td>6</td><td>8</td></tr> <tr><td>I3</td><td>6</td><td>8</td><td>10</td></tr> </table> | | | | SERAKAN BERULANG (F) DAN KEKUATAN (I) | F1 | F2 | F3 | I1 | 2 | 4 | 6 | I2 | 4 | 6 | 8 | I3 | 6 | 8 | 10 | LEHER <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th>POSISI LEHER (G) DAN DURASI (I)</th></tr> <tr><th>G1</th><th>G2</th><th>G3</th></tr> <tr><td>I1</td><td>2</td><td>4</td><td>6</td></tr> <tr><td>I2</td><td>4</td><td>6</td><td>8</td></tr> <tr><td>I3</td><td>6</td><td>8</td><td>10</td></tr> </table> | | | | POSISI LEHER (G) DAN DURASI (I) | G1 | G2 | G3 | I1 | 2 | 4 | 6 | I2 | 4 | 6 | 8 | I3 | 6 | 8 | 10 |
| A1 | A2 | A3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H1 | 2 | 4 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H2 | 4 | 6 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H3 | 6 | 8 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H4 | 8 | 10 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TINGGI (C) DAN BEBAN (H) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C1 | C2 | C3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H1 | 2 | 4 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H2 | 4 | 6 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H3 | 6 | 8 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H4 | 8 | 10 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SERAKAN BERULANG (F) DAN KEKUATAN (I) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F1 | F2 | F3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I1 | 2 | 4 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I2 | 4 | 6 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I3 | 6 | 8 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| POSISI LEHER (G) DAN DURASI (I) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| G1 | G2 | G3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I1 | 2 | 4 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I2 | 4 | 6 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I3 | 6 | 8 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| POSISI PUNGSLUNG (A) DAN DURASI (I) <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th>A1</th><th>A2</th><th>A3</th></tr> <tr><td>I1</td><td>2</td><td>4</td><td>6</td></tr> <tr><td>I2</td><td>4</td><td>6</td><td>8</td></tr> <tr><td>I3</td><td>6</td><td>8</td><td>10</td></tr> </table> | | | | A1 | A2 | A3 | I1 | 2 | 4 | 6 | I2 | 4 | 6 | 8 | I3 | 6 | 8 | 10 | TINGGI (C) DAN DURASI (I) <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th>C1</th><th>C2</th><th>C3</th></tr> <tr><td>I1</td><td>2</td><td>4</td><td>6</td></tr> <tr><td>I2</td><td>4</td><td>6</td><td>8</td></tr> <tr><td>I3</td><td>6</td><td>8</td><td>10</td></tr> </table> | | | | C1 | C2 | C3 | I1 | 2 | 4 | 6 | I2 | 4 | 6 | 8 | I3 | 6 | 8 | 10 | SERAKAN BERULANG (F) DAN DURASI (I) <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th>F1</th><th>F2</th><th>F3</th></tr> <tr><td>I1</td><td>2</td><td>4</td><td>6</td></tr> <tr><td>I2</td><td>4</td><td>6</td><td>8</td></tr> <tr><td>I3</td><td>6</td><td>8</td><td>10</td></tr> </table> | | | | F1 | F2 | F3 | I1 | 2 | 4 | 6 | I2 | 4 | 6 | 8 | I3 | 6 | 8 | 10 | KEBUTULAN VISUAL (G) DAN DURASI (I) <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th>G1</th><th>G2</th></tr> <tr><td>I1</td><td>2</td><td>4</td><td>6</td></tr> <tr><td>I2</td><td>4</td><td>6</td><td>8</td></tr> <tr><td>I3</td><td>6</td><td>8</td><td>10</td></tr> </table> | | | | G1 | G2 | I1 | 2 | 4 | 6 | I2 | 4 | 6 | 8 | I3 | 6 | 8 | 10 | | | | | | | | | | | | |
| A1 | A2 | A3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I1 | 2 | 4 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I2 | 4 | 6 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I3 | 6 | 8 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C1 | C2 | C3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| F1 | F2 | F3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I1 | 2 | 4 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| I3 | 6 | 8 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| G1 | G2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| I2 | 4 | 6 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I3 | 6 | 8 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| I1 | I2 | I3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H1 | 2 | 4 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H2 | 4 | 6 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H3 | 6 | 8 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H4 | 8 | 10 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| H2 | 4 | 6 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H3 | 6 | 8 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H4 | 8 | 10 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I1 | I2 | I3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I1 | 2 | 4 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I2 | 4 | 6 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| SCORE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| E1 | E2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I1 | 2 | 4 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I2 | 4 | 6 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I3 | 6 | 8 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| E1 | E2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I1 | 2 | 4 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I2 | 4 | 6 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I3 | 6 | 8 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M1 | M2 | M3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I1 | 2 | 4 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I2 | 4 | 6 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I3 | 6 | 8 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| B1 | B2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I1 | 2 | 4 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I2 | 4 | 6 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I3 | 6 | 8 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D1 | D2 | D3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H1 | 2 | 4 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H2 | 4 | 6 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H3 | 6 | 8 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H4 | 8 | 10 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| E1 | E2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I1 | 2 | 4 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I2 | 4 | 6 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I3 | 6 | 8 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| B1 | B2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I1 | 2 | 4 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I2 | 4 | 6 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I3 | 6 | 8 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| E1 | E2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I1 | 2 | 4 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I2 | 4 | 6 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I3 | 6 | 8 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| N1 | N2 | N3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I1 | 2 | 4 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I2 | 4 | 6 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I3 | 6 | 8 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| B1 | B2 | B3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I1 | 2 | 4 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I2 | 4 | 6 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I3 | 6 | 8 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| E1 | E2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I1 | 2 | 4 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I2 | 4 | 6 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I3 | 6 | 8 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D1 | D2 | D3 | D4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I1 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| B1 | B2 | B3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I1 | 2 | 4 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I2 | 4 | 6 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I3 | 6 | 8 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| E1 | E2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I1 | 2 | 4 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I2 | 4 | 6 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I3 | 6 | 8 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SCORE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Gambar 4 Rekapitulasi Matriks

Hasil dari rekapitulasi matriks akan dijumlahkan, sehingga akan menghasilkan nilai exposure score. Perhitungan nilai exposure level akan dilakukan dengan menghitung nilai X dan Xmax terlebih dahulu. Nilai X didapatkan berdasarkan hasil dari total nilai rekapitulasi matriks, sedangkan nilai Xmax didapatkan dengan menentukan posisi pekerjaan yang dilakukan operator berdasarkan hasil pengamatan, pekerjaan yang dilakukan dalam posisi statis atau dinamis mempunyai ketentuan nilainya masing-masing. Rumus yang digunakan dalam melakukan perhitungan exposure level adalah sebagai berikut.

$$E (\%) = \frac{X}{X_{max}} \times 100\% \tag{1}$$

Nilai Xmax dibedakan menjadi 2 yaitu Xmax pada saat posisi statis dan nilai Xmax saat posisi dinamis (Adha dkk, 2016).

Xmax = 162 apabila posisi statis.

Xmax = 176 apabila posisi dinamis.

Penentuan klasifikasi exposure level merupakan tahap terakhir dalam penggunaan metode Quick Exposure Check (QEC). Tahap ini akan memberikan suatu informasi mengenai tindakan yang harus dilakukan perusahaan untuk mengatasi permasalahan tersebut. Tabel klasifikasi exposure level dapat dilihat pada Tabel 1.

Tabel 1 Klasifikasi Exposure Level

| QEC Score (Total Presentase) | Tindakan |
|------------------------------|------------------------------------------------------------------|
| ≤ 40% | Aman |
| 40-49% | Perlu penelitian lebih lanjut |
| 50-69% | Perlu penelitian lebih lanjut dan dilakukan perubahan |
| ≥ 70% | Perlu penelitian lebih lanjut dan dilakukan perubahan secepatnya |

3. HASIL

3.1 Rekapitulasi Hasil Cheeksheet dan Matriks

Hasil dari penerapan metode Quick Exposure Check (QEC) pada rekapitulasi hasil kuesioner untuk operator dan pengamat yang diperoleh berdasarkan hasil pengisian cheeksheet yang telah dibagikan. Tabel hasil rekapitulasi kuesioner operator dan kuesioner pengamat dapat dilihat pada Tabel 2 dan Tabel 3.

Tabel 3 Rekapitulasi Hasil Kuesioner Operator

| Stasiun Kerja | Punggung | | Bahu/Lengan | | Pergelangan Tangan | | Leher |
|---------------|----------|----|-------------|----|--------------------|----|-------|
| | 1 | 2 | 1 | 2 | 1 | 2 | |
| Mesin Bubut | A2 | B1 | C2 | D2 | E1 | F1 | G2 |

Tabel 4 Rekapitulasi Hasil Kuesioner Pengamat

| Stasiun Kerja | Pertanyaan | | | | | | | |
|---------------|------------|----|----|----|----|----|----|----|
| | H | I | J | K | L | M | N | O |
| Mesin Bubut | H1 | I3 | J2 | K2 | L1 | M3 | N2 | O1 |

Hasil data yang diperoleh pada rekapitulasi hasil kuesioner operator dan pengamat selanjutnya akan dimasukkan kedalam atau dibuat kedalam matriks hasil rekapitulasi untuk mendapat score dari setiap bagian tubuh. Gambar hasil rekapitulasi matriks dapat dilihat pada Gambar 4.

3.2 Perhitungan Nilai Exposure Level

Selanjutnya dilakukan perhitungan untuk menentukan nilai X, Xmax dan exposure level berdasarkan hasil rekapitulasi matriks. Perhitungan nilai X, Xmax dan exposure level adalah sebagai berikut.

- $$X = \text{Skor punggung} + \text{Skor bahu/lengan} + \text{skor pergelangan tangan} + \text{Skor Leher}$$

$$= 24 + 30 + 38 + 31$$

$$X = 113$$
- $$X_{max} = \text{Kondisi Statis}$$

$$X_{max} = 162$$
- $$E (\%) = \frac{X}{X_{max}} \times 100\%$$

Usulan Perbaikan Beban Postur Tubuh Pada Stasiun Mesin Bubut Menggunakan Metode Quick Exposure Check (QEC) Pada PT Sunrise Abadi

$$E (\%) = \frac{113}{162} \times 100\% = 69,75\%$$

| EXPOSURE SCORE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|-------------------------|----|----|----|----|---|----|---|----|----|---|---|----|---|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|---|----|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----|----|----|----|----|----|---|----|----|----|----|----|----|----|----|----|----|----|----|----|
| NAMA OPERATOR | | Prk. Adi | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| POSISI | | Operator Mesin Bubut | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TANGGAL PENGISIAN | | 13 Juli 2020 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PUNGGUNG | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| *UNTUK PEKERJAAN STATIS LAKUKAN SCORING 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| *UNTUK PEKERJAAN MENGGUNAKAN MATERIAL HANDLING LAKUKAN SCORING 5 DAN 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| POSI PUNGGUNG (A) DAN BEBAN (H) <table border="1"> <tr><th></th><th>A1</th><th>A2</th><th>A3</th></tr> <tr><td>H1</td><td>2</td><td>4</td><td>4</td></tr> <tr><td>H2</td><td>4</td><td>6</td><td>3</td></tr> <tr><td>H3</td><td>6</td><td>8</td><td>10</td></tr> <tr><td>H4</td><td>8</td><td>10</td><td>12</td></tr> </table> SCORE 1 | | | A1 | A2 | A3 | H1 | 2 | 4 | 4 | H2 | 4 | 6 | 3 | H3 | 6 | 8 | 10 | H4 | 8 | 10 | 12 | BAHU/LENGAN TINGGI (C) DAN BEBAN (H) <table border="1"> <tr><th></th><th>C1</th><th>C2</th><th>C3</th></tr> <tr><td>H1</td><td>2</td><td>4</td><td>6</td></tr> <tr><td>H2</td><td>4</td><td>6</td><td>8</td></tr> <tr><td>H3</td><td>6</td><td>8</td><td>10</td></tr> <tr><td>H4</td><td>8</td><td>10</td><td>12</td></tr> </table> SCORE 1 | | | C1 | C2 | C3 | H1 | 2 | 4 | 6 | H2 | 4 | 6 | 8 | H3 | 6 | 8 | 10 | H4 | 8 | 10 | 12 |
| | A1 | A2 | A3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H1 | 2 | 4 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H2 | 4 | 6 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H3 | 6 | 8 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H4 | 8 | 10 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | C1 | C2 | C3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H1 | 2 | 4 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H2 | 4 | 6 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H3 | 6 | 8 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H4 | 8 | 10 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| POSI PUNGGUNG (A) DAN DURASI (I) <table border="1"> <tr><th></th><th>A1</th><th>A2</th><th>A3</th></tr> <tr><td>I1</td><td>2</td><td>4</td><td>4</td></tr> <tr><td>I2</td><td>4</td><td>6</td><td>3</td></tr> <tr><td>I3</td><td>6</td><td>8</td><td>10</td></tr> <tr><td>I4</td><td>8</td><td>10</td><td>12</td></tr> </table> SCORE 2 | | | A1 | A2 | A3 | I1 | 2 | 4 | 4 | I2 | 4 | 6 | 3 | I3 | 6 | 8 | 10 | I4 | 8 | 10 | 12 | PERGELANGTANGAN GERAKAN BERULANG (F) DAN DURASI (I) <table border="1"> <tr><th></th><th>F1</th><th>F2</th><th>F3</th></tr> <tr><td>I1</td><td>2</td><td>4</td><td>4</td></tr> <tr><td>I2</td><td>4</td><td>6</td><td>3</td></tr> <tr><td>I3</td><td>6</td><td>8</td><td>10</td></tr> <tr><td>I4</td><td>8</td><td>10</td><td>12</td></tr> </table> SCORE 2 | | | F1 | F2 | F3 | I1 | 2 | 4 | 4 | I2 | 4 | 6 | 3 | I3 | 6 | 8 | 10 | I4 | 8 | 10 | 12 |
| | A1 | A2 | A3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I1 | 2 | 4 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I2 | 4 | 6 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I3 | 6 | 8 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I4 | 8 | 10 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | F1 | F2 | F3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I1 | 2 | 4 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I2 | 4 | 6 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I3 | 6 | 8 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I4 | 8 | 10 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DURASI (I) DAN BEBAN (H) <table border="1"> <tr><th></th><th>I1</th><th>I2</th><th>I3</th></tr> <tr><td>H1</td><td>2</td><td>4</td><td>4</td></tr> <tr><td>H2</td><td>4</td><td>6</td><td>3</td></tr> <tr><td>H3</td><td>6</td><td>8</td><td>10</td></tr> <tr><td>H4</td><td>8</td><td>10</td><td>12</td></tr> </table> SCORE 3 | | | I1 | I2 | I3 | H1 | 2 | 4 | 4 | H2 | 4 | 6 | 3 | H3 | 6 | 8 | 10 | H4 | 8 | 10 | 12 | LEHER POSI LEHER (G) DAN DURASI (I) <table border="1"> <tr><th></th><th>G1</th><th>G2</th><th>G3</th></tr> <tr><td>I1</td><td>2</td><td>4</td><td>4</td></tr> <tr><td>I2</td><td>4</td><td>6</td><td>3</td></tr> <tr><td>I3</td><td>6</td><td>8</td><td>10</td></tr> <tr><td>I4</td><td>8</td><td>10</td><td>12</td></tr> </table> SCORE 2 | | | G1 | G2 | G3 | I1 | 2 | 4 | 4 | I2 | 4 | 6 | 3 | I3 | 6 | 8 | 10 | I4 | 8 | 10 | 12 |
| | I1 | I2 | I3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H1 | 2 | 4 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H2 | 4 | 6 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H3 | 6 | 8 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H4 | 8 | 10 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | G1 | G2 | G3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I1 | 2 | 4 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I2 | 4 | 6 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I3 | 6 | 8 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I4 | 8 | 10 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| POSI STATIS (B) DAN DURASI (I) <table border="1"> <tr><th></th><th>B1</th><th>B2</th></tr> <tr><td>I1</td><td>2</td><td>4</td></tr> <tr><td>I2</td><td>4</td><td>6</td></tr> <tr><td>I3</td><td>6</td><td>8</td></tr> <tr><td>I4</td><td>8</td><td>10</td></tr> </table> SCORE 4 | | | B1 | B2 | I1 | 2 | 4 | I2 | 4 | 6 | I3 | 6 | 8 | I4 | 8 | 10 | KEBUTUHAN VISUAL (K) DAN DURASI (I) <table border="1"> <tr><th></th><th>K1</th><th>K2</th></tr> <tr><td>I1</td><td>2</td><td>4</td></tr> <tr><td>I2</td><td>4</td><td>6</td></tr> <tr><td>I3</td><td>6</td><td>8</td></tr> <tr><td>I4</td><td>8</td><td>10</td></tr> </table> SCORE 4 | | | K1 | K2 | I1 | 2 | 4 | I2 | 4 | 6 | I3 | 6 | 8 | I4 | 8 | 10 | | | | | | | | | | |
| | B1 | B2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I1 | 2 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I2 | 4 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I3 | 6 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I4 | 8 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | K1 | K2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I1 | 2 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I2 | 4 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I3 | 6 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I4 | 8 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| POSI PERGELANGTANGAN (E) DAN DURASI (I) <table border="1"> <tr><th></th><th>E1</th><th>E2</th></tr> <tr><td>I1</td><td>2</td><td>4</td></tr> <tr><td>I2</td><td>4</td><td>6</td></tr> <tr><td>I3</td><td>6</td><td>8</td></tr> <tr><td>I4</td><td>8</td><td>10</td></tr> </table> SCORE 4 | | | E1 | E2 | I1 | 2 | 4 | I2 | 4 | 6 | I3 | 6 | 8 | I4 | 8 | 10 | MENGENGEMUDIKAN <table border="1"> <tr><th></th><th>L1</th><th>L2</th><th>L3</th></tr> <tr><td>I1</td><td>2</td><td>4</td><td>4</td></tr> <tr><td>I2</td><td>4</td><td>6</td><td>3</td></tr> <tr><td>I3</td><td>6</td><td>8</td><td>10</td></tr> <tr><td>I4</td><td>8</td><td>10</td><td>12</td></tr> </table> SCORE | | | L1 | L2 | L3 | I1 | 2 | 4 | 4 | I2 | 4 | 6 | 3 | I3 | 6 | 8 | 10 | I4 | 8 | 10 | 12 | | | | | |
| | E1 | E2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I1 | 2 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I2 | 4 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I3 | 6 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I4 | 8 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | L1 | L2 | L3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I1 | 2 | 4 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I2 | 4 | 6 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I3 | 6 | 8 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| POSI PERGELANGTANGAN (E) DAN DURASI (I) <table border="1"> <tr><th></th><th>E1</th><th>E2</th></tr> <tr><td>I1</td><td>2</td><td>4</td></tr> <tr><td>I2</td><td>4</td><td>6</td></tr> <tr><td>I3</td><td>6</td><td>8</td></tr> <tr><td>I4</td><td>8</td><td>10</td></tr> </table> SCORE 4 | | | E1 | E2 | I1 | 2 | 4 | I2 | 4 | 6 | I3 | 6 | 8 | I4 | 8 | 10 | GETARAN <table border="1"> <tr><th></th><th>M1</th><th>M2</th><th>M3</th></tr> <tr><td>I1</td><td>2</td><td>4</td><td>4</td></tr> <tr><td>I2</td><td>4</td><td>6</td><td>3</td></tr> <tr><td>I3</td><td>6</td><td>8</td><td>10</td></tr> <tr><td>I4</td><td>8</td><td>10</td><td>12</td></tr> </table> SCORE | | | M1 | M2 | M3 | I1 | 2 | 4 | 4 | I2 | 4 | 6 | 3 | I3 | 6 | 8 | 10 | I4 | 8 | 10 | 12 | | | | | |
| | E1 | E2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I1 | 2 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I2 | 4 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I3 | 6 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I4 | 8 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | M1 | M2 | M3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I1 | 2 | 4 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I2 | 4 | 6 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I3 | 6 | 8 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I4 | 8 | 10 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| POSI PERGELANGTANGAN (E) DAN DURASI (I) <table border="1"> <tr><th></th><th>E1</th><th>E2</th></tr> <tr><td>I1</td><td>2</td><td>4</td></tr> <tr><td>I2</td><td>4</td><td>6</td></tr> <tr><td>I3</td><td>6</td><td>8</td></tr> <tr><td>I4</td><td>8</td><td>10</td></tr> </table> SCORE 5 | | | E1 | E2 | I1 | 2 | 4 | I2 | 4 | 6 | I3 | 6 | 8 | I4 | 8 | 10 | KECEPATAN BEKERJA <table border="1"> <tr><th></th><th>N1</th><th>N2</th><th>N3</th></tr> <tr><td>I1</td><td>2</td><td>4</td><td>4</td></tr> <tr><td>I2</td><td>4</td><td>6</td><td>3</td></tr> <tr><td>I3</td><td>6</td><td>8</td><td>10</td></tr> <tr><td>I4</td><td>8</td><td>10</td><td>12</td></tr> </table> SCORE | | | N1 | N2 | N3 | I1 | 2 | 4 | 4 | I2 | 4 | 6 | 3 | I3 | 6 | 8 | 10 | I4 | 8 | 10 | 12 | | | | | |
| | E1 | E2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I1 | 2 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I2 | 4 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I3 | 6 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I4 | 8 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | N1 | N2 | N3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I1 | 2 | 4 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I2 | 4 | 6 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I3 | 6 | 8 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I4 | 8 | 10 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| POSI PERGELANGTANGAN (E) DAN DURASI (I) <table border="1"> <tr><th></th><th>E1</th><th>E2</th></tr> <tr><td>I1</td><td>2</td><td>4</td></tr> <tr><td>I2</td><td>4</td><td>6</td></tr> <tr><td>I3</td><td>6</td><td>8</td></tr> <tr><td>I4</td><td>8</td><td>10</td></tr> </table> SCORE 5 | | | E1 | E2 | I1 | 2 | 4 | I2 | 4 | 6 | I3 | 6 | 8 | I4 | 8 | 10 | STRESS <table border="1"> <tr><th></th><th>O1</th><th>O2</th><th>O3</th><th>O4</th></tr> <tr><td>I1</td><td>2</td><td>4</td><td>4</td><td>4</td></tr> <tr><td>I2</td><td>4</td><td>6</td><td>3</td><td>3</td></tr> <tr><td>I3</td><td>6</td><td>8</td><td>10</td><td>10</td></tr> <tr><td>I4</td><td>8</td><td>10</td><td>12</td><td>12</td></tr> </table> SCORE | | | O1 | O2 | O3 | O4 | I1 | 2 | 4 | 4 | 4 | I2 | 4 | 6 | 3 | 3 | I3 | 6 | 8 | 10 | 10 | I4 | 8 | 10 | 12 | 12 |
| | E1 | E2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I1 | 2 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I2 | 4 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I3 | 6 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I4 | 8 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | O1 | O2 | O3 | O4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I1 | 2 | 4 | 4 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I2 | 4 | 6 | 3 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I3 | 6 | 8 | 10 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I4 | 8 | 10 | 12 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TOTAL SCORE = 24 | | TOTAL SCORE = 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TOTAL SCORE = 28 | | TOTAL SCORE = 31 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Gambar 5 Hasil Rekapitulasi Matriks

Berdasarkan hasil yang diperoleh dari perhitungan nilai exposure level didapatkan nilai exposure level sebesar 69,75%. Hasil dari nilai exposure level tersebut menunjukkan perlunya dilakukan penelitian yang lebih lanjut dan dilakukannya perubahan. Berdasarkan hasil klasifikasi exposure level tersebut menunjukkan jika sistem kerja yang terdapat di PT Sunrise Abadi masih kurang baik. Perhitungan nilai exposure score terlihat pada bagian leher dan bahu/lengan mendapatkan nilai yang cukup tinggi, sehingga akan mengakibatkan risiko terjadi cedera pada operator yang bekerja akan cukup tinggi. Hasil pada getaran dan waktu pekerjaan yang dilakukan oleh operator juga cukup tinggi, operator melakukan pekerjaannya lebih dari 4 jam yang menghasilkan getaran, selama pekerjaan tersebut dilakukan. Penggunaan mesin bubut yang sudah berumur cukup lama dan jarang dilakukan perawatan membuat operator harus membutuhkan tenaga lebih untuk mengoperasikan mesin bubut. Usaha lebih yang dilakukan operator tersebut yang membuat sistem kerja pada stasiun kerja mesin bubut menghasilkan nilai exposure level yang tinggi, dan dapat berdampak pada kinerja dari operator dalam melakukan pekerjaan. Penggunaan usaha lebih yang dilakukan operator dapat mengakibatkan cedera otot, sehingga akan mengganggu kinerja yang dilakukan operator dalam melakukan pekerjaan.

Usulan yang dapat dilakukan pada PT Sunrise Abadi adalah dengan melakukan tindakan yang dihasilkan berdasarkan hasil klasifikasi exposure level dan melakukan perbaikan dan perawatan pada setiap mesin yang digunakan khususnya pada pada stasiun kerja mesin bubut untuk mengurangi usaha lebih yang dilakukan operator dalam melakukan pekerjaan.

4. KESIMPULAN

Hasil yang diperoleh pada nilai exposure level adalah sebesar 69,75%, berdasarkan hasil nilai tersebut menunjukkan jika perlu dilakukannya penelitian lebih lanjut dan dilakukannya

perubahan pada PT Sunrise Abadi, sehingga usulan yang dapat dilakukan pada PT Sunrise Abadi adalah dengan melakukan tindakan yang dihasilkan berdasarkan hasil klasifikasi exposure level dan melakukan perbaikan dan perawatan pada setiap mesin yang digunakan khususnya pada pada stasiun kerja mesin bubut untuk mengurangi usaha lebih yang dilakukan operator dalam melakukan pekerjaan.

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