

DAFTAR ISI

HALAMAN JUDUL	i
HALAMAN PENGESAHAN	ii
HALAMAN PERNYATAAN	iii
NASKAH SOAL TUGAS AKHIR	iv
HALAMAN PERSEMBAHAN	v
INTISARI	viii
KATA PENGANTAR	ix
DAFTAR ISI	xi
DAFTAR GAMBAR	xvi
DAFTAR TABEL	xvii
DAFTAR LAMPIRAN	xviii
BAB I PENDAHULUAN	
1.1. Latar Belakang Masalah	1
1.2. Rumusan Masalah	2
1.3. Asumsi dan Batasan Masalah	2
1.4. Tujuan Penelitian	2
1.5. Manfaat Penelitian	3
BAB II TINJAUAN PUSTAKA	
2.1. Aplikasi <i>Root Cause Analysis</i> Untuk Sistem Manajemen Perawatan	4
2.2. Perbedaan RCM dan SRCM	4
2.3. Beberapa Metode Penerapan SRCM	5
BAB III LANDASAN TEORI	
3.1. Konsep Perawatan.....	8
3.2. Macam Perawatan.....	9
3.3. <i>Work Order Systems</i>	11
3.4. <i>Maintenance Planning and Scheduling</i>	12



3.5.	<i>Preventive Maintenance</i>	14
3.6.1.	Efektivitas <i>Preventive Maintenance</i>	16
3.6.2.	Evaluasi <i>Preventive Maintenance</i>	19
3.6.	Konsep <i>Reliability Centered Maintenance (RCM)</i>	21
3.7.1.	Konsep <i>Streamlined RCM</i>	22
3.7.2.	<i>Failure Mode</i>	22
3.7.3.	<i>Failure Effect</i>	23
3.7.4.	<i>Task Selection</i>	24
3.7.	Konsep <i>Root Cause Analysis (RCA)</i>	24
3.7.1.	<i>Five Why Analysis</i>	25
3.7.2.	Kelebihan dan Kelemahan Metode <i>Five Why Analysis</i>	26
3.7.3.	Perbandingan <i>Five Why Analysis</i> dengan beberapa metode RCA	27
3.7.3.1.	<i>Fishbone Diagram</i>	27
3.7.3.2.	<i>Apollo Root Cause Analysis</i>	28
3.8.	Prinsip Umum <i>Diesel Engine</i>	29
3.8.1.	Prinsip Pembakaran <i>Diesel Engine</i>	29
3.8.2.	Jenis-Jenis <i>Diesel engine</i>	30
3.8.3.	Proses Pembakaran <i>Diesel engine</i>	30
3.8.4.	Keuntungan dan kerugian <i>Diesel engine 4 Tak</i>	32
3.8.4.1.	Keuntungan <i>Diesel engine</i>	32
3.8.4.2.	Kerugian <i>Diesel engine</i>	32
3.9.	Implementasi SRCM pada <i>Diesel Engine</i>	32

BAB IV METODOLOGI PENELITIAN

4.1.	Lokasi dan Waktu Penelitian	34
4.2.	Obyek Penelitian.....	34
4.3.	Pengumpulan Data	34
4.3.1.	Data yang diperlukan.....	34
4.3.2.	Metode Pengumpulan Data	35
4.4.	Langkah Penelitian.....	36
4.3.	Hambatan Penelitian serta Pemecahannya.....	38



BAB V HASIL DAN PEMBAHASAN

5.1. <i>Shipping Pump (ALCo Diesel Engine 4 Tak)</i>	40
5.1.1. <i>Data-Data Teknis</i>	41
5.1.2. <i>Fuel (Bahan Bakar)</i>	42
5.1.3. <i>Safety Device (Peralatan Keamanan)</i>	43
5.1.3.1. <i>Water Jacket Temperature</i>	43
5.1.3.2. <i>Lube Oil Pressure</i>	44
5.1.3.3. <i>Over Speed Trip</i>	45
5.1.3.4. <i>Thermostat</i>	45
5.1.4. <i>Komponen-Komponen Shipping Pump</i>	46
5.1.4.1. <i>Crankcase Exhauster</i>	46
5.1.4.2. <i>Oil Pump</i>	47
5.1.4.3. <i>Fuel Injection Pump (Pompa Bahan Bakar)</i>	48
5.1.4.4. <i>Turbo Charger</i>	48
5.1.4.5. <i>Engine Governor</i>	49
5.1.4. <i>Trouble Shooting Chart</i>	50
5.2. <i>Sistem Maintenance HCT CTOM</i>	51
5.2.1. <i>SERIP Implementation</i>	51
5.2.2. <i>Scope Program Maintenance HCT CTOM</i>	51
5.2.3. <i>Aplikasi CMMS (JDE System)</i>	49
5.2.4. <i>Work Order Prioritization</i>	52
5.2.5. <i>Planning and Scheduling</i>	55
5.2.6. <i>Contract Maintenance Staffs</i>	55
5.2.7. <i>Prosedur eksekusi Aktivitas Maintenance</i>	57
5.3. <i>Program Maintenance Shipping Pump System</i>	58
5.4. <i>Permasalahan-Permasalahan Yang Menghambat Optimalisasi Preventive Maintenance Shipping Pump</i>	61
5.4.1. <i>Operation and Maintenance Philosophy</i>	62
5.4.2. <i>Record Data JDE</i>	64
5.4.2.1. <i>Equipment Number</i>	64
5.4.2.2. <i>Work Order Description</i>	67



5.4.2.3. <i>Work Order Type (Corrective or Preventive)</i>	68
5.4.2.4. <i>Work Order Priority</i>	70
5.4.3. <i>Update status WO pada JDE</i>	71
5.4.4. <i>Part list</i>	72
5.4.5. <i>Planning & Scheduling</i>	74
5.4.5.1. <i>Schedule Maintenance Vs Operation</i>	74
5.4.5.2. <i>Estimasi waktu kerja</i>	75
5.5. <i>Proses RCA</i>	77
5.4.3. <i>Proses RCA Dengan Metode Five-Why Analysis</i>	78
5.4.4. <i>Perumusan Recommended Actions</i>	79
5.6. <i>Efektivitas PM Shipping Pump System</i>	80
5.7. <i>Proses SRCM</i>	83
5.7.1. <i>Perumusan lembar kerja SRCM</i>	83
5.7.1.1. <i>Identifikasi critical dan potential failure modes</i>	84
5.7.1.2. <i>Identifikasi dampak kegagalan (failure effects)</i>	84
5.7.1.3. <i>Penentuan aktivitas proaktif, interval maksimum serta pelaksanaannya</i>	85
5.7.2. <i>SRCM vs Existing PM</i>	87
5.7.3. <i>Evaluasi Existing PM</i>	90

BAB VI KESIMPULAN DAN SARAN

6.1. <i>Kesimpulan</i>	93
6.2. <i>Saran</i>	95

DAFTAR PUSTAKA	96
-----------------------------	----

LAMPIRAN	98
-----------------------	----