POWER SCENE July 2012

- Know where to obtain first-aid advice and medical attention.
- Wash regularly and use non-hazardous cleansers, barrier and conditioning creams.
- Use, if possible, separate lockers for outdoor Change and dry-clean work clothes regularly. and working clothes.
- Ensure the arrangements for the extraction of fine mists and sprays are in proper working
- Ensure that metal particles and swarf are implements rather than by hand. removed from machines with suitable
- Ensure machine splash guards and machine protection devices are properly adjusted.

on packages which identify toxic, harmful or Ensure that the hazardous substance markings

NEXT MONTHLY MEETING

Date: Thursday, 2nd August 2012

Time : 05.30 p.m.

Venue TRANSMISSION CLUB Kalamassery

Agenda: Technical Session

Dear Members,

Normal Business Session

this meeting. revision arrears, please regularise the same in meeting. Those who are not paid the pay All members are requested to attend the

when storing, transporting or using the product. flammable products are understood and obeyed

Jayaprakash.

Observe all safety, hygiene and 'good housekeeping' rules at all times.

UNIT 2012-13

CEC Members Secretary Vice Chairperson: Sreekumar B. AEE, APDRP Construction Div., Ernakulam, Ph. 9496012022 Nahas M. Shamim Santhosh Kumar N. Kalamassery, Ph. 9496009191 Er. Baby Gleena **Er. Tenson M A**Dy C E, BDPP, Brahmapuram EE, Electrical Division, Tripunithura, Ph. 9400386061 Ph. 9496008824 AEE, Electrical Division Tripunithura Ph. 9446008290 AEE, 220 kV Substation Subdivision Ph. 9446008470 LD Station, Kalamassery Building Committee Convenor : **Kenny Philip**,
AEE. Central Subdivision, Ernakulam, Ernakulam Kalamassery : Powerscene Editor Tripunithura Local Area Representatives

Members are requested to give the articles to the Power Scene to the Editor or the Area Representatives. Articles from family members are most welcomed. Articles may be e-mailed to haseena.ps@gmail.com

Ph. 9496008733

Geetha R,AE, O/o CE(DC), Ernakulam,

Ph. 9446139741

Leeja Joseph, AE, Electrical Section, Tripunithura Ph. 9496008839

Ph. 9496009249

Jins K D,AE,BDPP Brahmapuram

Jayasree S, AE, PTRU, Kalamassery Ph. 9496011710

Aluva Ph. 9447356003

ose P. Ummen, AEE Electrical Division,

Haseena P. S., AE, 220 kV Substation, Kalamassery, Ph.9447607835

Kalamassery, Ph. 9446008243 AEE, Relay Subdivision

ഊർജ്ജസംരക്ഷണം ശീലമാക്കുക BOOK POST

KSEB Engineers' Association, Engineers' House St. Benedict Road, Ernakulam, Kochi-682 018 കരുതലോടെ ഉപയോഗിക്കുക 10 വരെ വൈദ്യുതി ഏറ്റവും If undelivered, kindly return to: വൈകുന്നേരം ചുതൽ

Stamp

To Engineer, K.S.E.B. PIN

Kalima Graphics, Ph: 2541167

For Private Circulation Only

NEWSLETTER
OF THE KSEB
ENGINEERS'
ASSOCIATION,
ERNAKULAM UNIT

a day. Friends, on 20.07.2010 destiny's hands brutally snatched away the most important utility in this state, K S E B almost became breathless for life of one of the most intelligent engineers of A man made disaster devastated the beautiful life of a family and the our country- Shri. N S

we get stuck in a monotonous way of thinking and acting, and when our energy levels become responsibilities without any apprehention at organisation. Had Er. Jayaprakash been alive today, he would have discharged his duties and behind by Er. Jayaprakash. too low, we can look upto the legacy of an unmatchable work culture and professionalism left Karmayogi', always doing the right thing and accepting destiny as it comes. Therefore when These days most of us are having a lot of apprehentions about the future prospects of our all. This may be because, he really was a '

despondency and disappointment to overpower our spirits. Yes, disagreeable things are certain to occur in our lives, but the test lies in not allowing

BABY GLEENA

Vice Chairperson, Ernakulam Unit

RAMADAN WISHES TO ALL THE MEMBER RS OF KSEB ENGINEEERS' ASSOCIATION

Congratulations

Alwaye seucred 96% Regional Stores Division, Executive Er. Mathew P. Kurien, Rosy Kurien daughter of Engineer,



for the outstanding achievement. marks in plus two CBSE examination. Congratulations to Kumari Rosy Kurien

Edited, Printed and Published by Er: Haseena P.S. for and

Welcome

Kalamassery. and posted to Transmission Circle Store, subdivision, Pappinissery is transferred Sri. Anwer A. A. AEE, Electrical

and posted to O/o Standing Concel Subdivision, Thodupuzha is transferred Smt. Priya Govind, AEE, Electrical

The Ernakulam Unit of KSEB Engineers

on behalf of KSEB Engineers' Association, Ernakulam

POWER SCENE July 2012

Dear Engineer

Here we have the remaining part of the literature about

Transformer oil - handling and testing

TRANSFORMER OIL – Handling and Testing Part II

Transformer Oil handling

Once the transformer oil (Lubricant)leave the care of its agents, their continuing fitness for use may depend on the quality of subsequent storage or handling procedures.

Siting the lubricant store

- Good access for delivery vehicles
- Plenty of vehicle unloading room
- Properly equipped unloading dock with direct access to the oil store
- Clean dust free conditions for unsealing and dispensing
- Easy distribution to the principal points of use
- Simple inventory control, and at-a-glance check on the conditions of containers
- Space for empty barrels and returnable containers

Outdoor Storage

- 1. The risk of contamination is greatly increased when lubricants are decanted or dispensed outdoors Condensation or water ingress is more likely when a barrel is only part-full.
- 2. Oil barrels standing in the open suffer variations in temperature, and corresponding variations in internal pressure. This leads to "breathing" where there is a leaking seal, with moisture liable to be drawn in particularly if the barrel is standing bung-up, for the top of the barrel forms a rain trap.
- 3. Water on top of the barrel can also cause rusting, and the obliteration of markings. For these reasons barrels should be stored tilted, on their side, or bungs-down.
- 4. The bungs of tilted or horizontal barrels should be of the 3 o'clock and 9 o'clock positions, to help ensure the gaskets are kept in contact with the oil in the barrel.
- 5. In every case, barrels should be stored off the ground on stillages or in racks, well clear of

surface water. They must never stand directly on a surface containing corrosive clinker.

Stacking Barrels

- 1. If space is insufficient to allow barrels to be stored on horizontal stillages, they may be vertically stacked on pallets or stored in horizontal or sloping racks.
- 2. Redaily Accessible wih minimum Disturbance
- 3. "First-in, first-out" is a good principle to establish.

Handling Barrels

The standard 210 litre barrel weighs about 185 kg when filled with oil. It is strong, being designed to be re-used several times, but is readily damaged by bad handling.

The barrels must never be dropped when being unloaded or moved. The impact can burst the seams, causing subsequent leaking or contamination of the contents.

- Forklift truck (either horizontally on the standard fork, or vertically with a single or four-barrel handling attachment)
- Two-wheel hand truck
- Manual elevator
- Manual side-delivery stacker
- Chain hoist and trolley on 'I-Beam' bridge
- Rolling (by two workers)

Storage of grease

Barrels containing soft grease should be stood upright.

The standard 182 kg grease barrel has a large opening, the seal of which is readily damaged by careless handling. This may lead to the leaking of soft grease from a horizontal stored barrel.

Good store keeping

New packages should be wiped clean around the bungs, the labelling checked, and any marked variation from the product's normal colour, smell or consistency reported.

Lubricants must only be dispensed from clean, dedicated containers.

Never be tempted to use ad-hoc oil measures. A drip tray should be positioned beneath each barrel tap. Split oil can cause accidents and should be cleaned up without delay.

Measuring cans with easy pour spouts allow the issue of oil to be recorded. Records should be accurate and complete, with the full type and grade of each lubricant noted.

When empty, lubricant containers should have their bungs or lids securely replaced to prevent Contamination. Never re-use empty lubricants packages.

Cases have been known of waste oil, other lubricants, chemicals, fuels and even water being stored in empty lubricants packages and being inadvertently used in place of the service lubricant. Results can be dangerous, and sometimes catastrophic.

Samplin

After the barrel has been rolled to agitate the contents, a metal or glass sampling tube, or 'thief', is used to withdraw a sample.

It is essential that both the 'thief' and the container into which the lubricant sample is poured are absolutely clean, dry and odour free.

Contamination in use

Lubricants and cutting oils must periodically be drained from the machine and replaced by fresh oils or coolant.

Some used oils, particularly in less arduous applications, can be reclaimed for future use by settling, centrifuging, water washing or filtration.

When a soluble oil is prepared for use, the oil must be added to the water in the recommended amount, with consistent stirring to form a stable added to the oil, as an unstable emulsion may result. The water must be clean, and mixing should take place in a clean separate tank rather than in the machine sump.

Fire precautions

The hazard is related to the flash point of the product. Lubricants with a flash point less than 55°C should be stored in closed containers away from heat in a well ventilated place.

When the product is used in an open tank, the latter should be well hooded, well ventilated,

and earthed to prevent static sparks. When not in use, the tank should be tightly covered.

POWER SCENE July 2012

Lubricating oil is potentially dangerous in conjunction with more flammable materials. Oilsoaked sawdust, rags or cleaning paper must not be allowed to accumulate.

Oil stores must be equipped with CO2, dry chemical or foam type extinguishers, and with sand filled fire buckets. Water should not be used for

The lubricants store should be designated a 'No Smoking' area.

on the surface and spread the fire.

suppressing fires, as the burning lubricant may float

Waste oil disposal

Waste oils are subject to re-use or destruction largely according to economic factors.

Re-use may follow re-fining, laundering (e.g. by filtering or centrifuging) or downgrading (e.g. for use as a bitumen flux oil); or maybe as a fuel oil.

When waste oil is too heavily contaminated to allow re-use, the only courses are incineration after suitable pre-treatment, or disposal by controlled dumping on an approved site in accordance with environmental legislation.

Deliveries

All deliveries should be supervised by a responsible person to ensure that the correct quantity and grade of lubricant is off-loaded or discharged.

With bulk lubricants, it is essential that the correct grade is stored in the right tank, so supervision and tankage labelling are essential.

Delivery tickets should be signed by customers to verify that the correct grade and quantity have been received.

Health and safety

IOC lubricants present little or no health hazard provided they are used as recommended, and reasonable care is taken to keep them off the skin and away from the eyes, and to avoid ingestion or inhalation of vapours or mists.

- Wear working overalls, impermeable aprons and gloves, etc. to eliminate unnecessary contact with oil.
- Avoid using dirty rags to wipe skin; to seek first-aid treatment immediately for any injury, however slight; to report any skin complaint without delay.

2