

TO OUR VALUED CUSTOMERS

RAINBOW RIGGERS LTD. proudly celebrates *thirty years* of providing safe, reliable service to the industry. Established in 1977, we have built an outstanding reputation for honest, economical performance. We have been a partner in the COR (Certificate of Recognition) Program since 1994. Our highly qualified staff is always glad to hear from you and will continue to provide the personalized service you have come to know and expect. We can work with you, providing key information that may assist in the planning of your projects. Feel free to call our office or email us at your convenience.

We also would like to take this opportunity to extend our appreciation for your patronage over the last 30 years. Your business is appreciated and we look forward to looking after your stack requirements over the next thirty years!

RAINBOW RIGGERS LTD.

Website: www.rainbowriggers.com

E-mail: info@rainbowriggers.com

Rainbow Riggers supplies all of your maintenance requirements. Inspections and repairs are offered to all makes of flare and incinerator stacks such as John Zinc, National Air Oil, Mactronics, Tornado, Callidus Technologies, Pyramid Flare Systems, and Westech .

With our specialized equipment we can access and replace most flare tips without the use of cranes. This may save thousands of dollars in crane costs. Ignition system repairs are easily changed out or replaced using our equipment. Rainbow Riggers Ltd. provides stack erections and demolitions as well as minimal maintenance needs such as; guy wire tensioning, inspections and preventative maintenance requirements to flare stacks, incinerator stacks, communication towers and pipeline crossings.

SERVICES OFFERED

- Engineering for specialized projects and safe work plan development
- Rigging and crane work of all types (specialized in working at heights)
- Interior and exterior inspections and maintenance to incinerator and power-house stacks
- This maintenance includes painting, extensions of balconies, mounting, jibs for tool hoists and cladding repairs (screws, cladding replacement, banding)
- Flare stack maintenance including ignitor systems (supply, installation and maintenance), tip removal and replacement (done by either crane, helicopter or our jib), painting, stack erection and demolition
- Preventative maintenance inspections done to stacks to predetermine maintenance needed for turnaround or other
 - : Helium balloon aerial photos and inspections of operating flare stacks and remote locations
- Supply installation of all retractable systems including retractable thermocouples, retractable lights and retractable pilots
 - : Temporary pilot supply and installation while online for failed ignition systems
- Guy cable maintenance to include tensioning, lubricating, shortening, and replacement on all types of stacks and radio towers
- Rigging for refractory inspections and maintenance
- Demolitions of all kinds including tanks, vessels, piping, etc.
- Felling of stacks, towers, vessels, etc.
- Steam and ignition line replacement etc., stacks done with our hoist
- Fall Arrest Systems (supply, installation and inspection)
- Hoisting and lowering of stack analyzer shacks with our hoist
- B-pressure and structural welding (specialty height work)
- Light bulb replacement on stacks and radio towers
- Shop fabrication (flare tip manufacturing, ladders, etc.)

GUY CABLE MAINTENANCE

TENSIONING OF GUY CABLES

As cables work in the wind, they creep and elongate. This is normal and should be subject to periodic maintenance. It is recommended the cable tensions be checked after six months, one year, and every second year thereafter. The other effect of the elongation is to reduce the tension on the clips. The clips should be checked after thirty days, and then according to the same schedule as for tensioning.

FLARE STACKS

The stack is generally operated at a temperature very close to ambient, which means there is no thermal growth in the stack that is not offset by an equal amount in the cables. Therefore, tensioning can be carried out at any time.

INCINERATOR AND EXHAUST STACKS

These stacks operate at a temperature quite different from ambient, and this must be considered when tensioning. It is not recommended to tension these cables at times *other than* operating, unless the stack is down for quite a length of time.

COMMUNICATION AND RADIO TOWERS

Towers operate at ambient temperature and may be tensioned at any time, as temperatures do not affect the tensions.

LUBRICATION

As guy cables work in the wind, the individual wires rub against each other and wear, shortening the life of the cable. Periodic lubrication of the cables reduces this wear and also provides additional protection against corrosion.

The method of application of the lubricant is important. Some mechanical methods have been developed that apply the lubricant under pressure, injecting it into the cable. This can be beneficial, however it does have pitfalls; the equipment is subject to malfunction that could leave gaps in the protection, the lubricant could leak out and fall to the ground leaving a possible environmental problem.

Manual installation is done by a worker rubbing on the lubricant. It is not forced into the cable under pressure however, all cables are lubricated at time of manufacture and so this difference may be moot.

End connections are the location of most problems with cables, therefore it is important that the end connections be thoroughly inspected each time the cables are serviced. It is considered good practice to have any person in the area take a look at the connections and to report any anomaly.