ESCO NEWS

OCCASIONAL NEWS AND INFORMATION FROM ESCO ENGINEERING

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ESCO Engineering, 179 Lansdowne Avenue, Kingsville, Ontario N9Y 3J2, Ph: (519) 733-3122; *Fax (519) 733-6094*

NEW NESHAP RULE FOR HCL

It is over a year since we last sent out one of these newsletters, and 1999 almost slipped past without one. We have had a very busy year, so our plans for this newsletter kept getting pre-empted by work!

The big news of the year for picklers is that the new HCl rule was, at last, promulgated. (Federal Register, June 22, 1999, Vol 64, #119 p33202 - the new rule actually starts on p33218, all the rest is discussion). There were a few changes to the rule, compared to that proposed, and the requirements are now slightly less stringent. The emission limits for existing pickling facilities are:

- from continuous or batch pickle lines, 18 ppmv in the stack, or 97% scrubber efficiency.
- from acid recovery plants, 25 ppmv in the stack.

For new sources, the limits are:

- from continuous pickling lines, 6 ppmv in the stack, or 99% scrubber efficiency
- from batch pickle lines, 18 ppmv in the stack, or 97% scrubber efficiency.
- from acid recovery plants, 12 ppmv in the stack.

In all cases, it is the less stringent of the alternatives that must be met.

The performance must be proved by testing after installation, and confirmed at intervals of 1 to 2-1/2 years. Operating parameters and maintenance inspections must be recorded on a regular basis, and any necessary repairs must be initiated within one day.

Compliance date for existing facilities is June 22, 2001 - for new facilities (started after Sept 18, 1997) it is immediate.

The physical changes needed to meet the new requirements are not very onerous, but we are entering a new era for operators, now that the regulations require that HCl scrubbers be not only installed, but also operated and maintained properly.

If you are considering improvements or changes to your scrubbers, you should have a copy of our publications **'The Whys and Hows of pickle line fume scrubbers'.** This is a practical guide, which includes: types of scrubber; how they work; how to specify scrubbers; and troubleshooting tips. Request your copy by phone, fax or e-mail - it's free

If you need help in developing realistic operating/maintenance procedures and test plans, call us. Esco can also provide design checking, upgrade recommendations and physical inspection services

BUYING ENGINEERING #3

Sources of engineering

The owner can obtain the engineering design services needed for a project from a number of sources:

- equipment vendors
- fabrication shops
- installation contractors
- in-house engineering department (are there still any left?)
- engineering consultant

There are any number of reasons why you may want the vendor, fab shop or installer to do the design - improved co-ordination; faster delivery or lower cost, but make no mistake about it, these services are never free. You may not get a separate invoice for engineering, but the cost will be in the bill somewhere.

In addition, consider what you do <u>not</u> get:

- you don't get the design that is best for you, but the one that fits in best with the vendor's product line.
- you do not have control over the timing and scheduling of the design data you need.
- you don't get proper drawings for record purposes, in the format you want. This may not matter right away, but it will when you need to repair, replace or modify the system.
- you don't get a co-ordinated view of the project - each vendor sees it in terms of his particular piece. This leads to conflicts, oversights and missing items at construction time.

The value of design documentation is not always appreciated, but it is surprising how many of our customers call us up for information about past jobs, when they truly realize the value of what they didn't keep!

Next time: The engineer - your partner.

INHIBITOR ALERT!

During the past 15 months or so, we have twice come across batch pickling operations in which the pickling rate was almost zero, due to excessive inhibitor addition to sulfuric acid pickle tanks.

Despite what the vendors say, too much inhibitor can make the acid 'dead'. Most inhibitors work best at a concentration of 0.25% by volume (1/4 gal per 100 gal of fresh acid) or less - at these concentration levels, attack on the metal is reduced by over 90%, without significant loss of pickling speed.

Special care needs to be taken in controlling inhibitor addition to plants having acid regeneration facilities. The inhibitor in the spent acid is returned to the pickle tank with the recovered acid, and can accumulate to unexpectedly high levels. Always add inhibitor in proportion to the raw acid additions.

In addition to keeping cost down and pickling speed up, limiting inhibitor additions gives a cleaner surface for subsequent coating operations. Our usual suggestion, for anyone starting with a new inhibitor, is to start with about half the vendor's recommended dose, and gradually increase until inhibition is satisfactory. If you want to know more about inhibitor control, ask for a copy of our free booklet **'The Whys and Hows of Sulfuric Acid Pickling'.**

AUTOCAD 2000

We made the switch to AutoCAD 2000 this year, and after the usual extended effort to make it work the way we want it to, we seem to be just about back up to speed.

There are some nice features in this release - ability to have several drawings open at once; cut and paste from one drawing to another; dynamic pan and zoom. On the other hand, the plotting process, which has always been the weakest part of AutoCAD is completely changed, and not for the better. The new plotting process is cumbersome and not very well explained.

The biggest weakness is device support - there are only a few plotter drivers supplied with AutoCAD, and although this version is supposed to support digitizers, it does not.

Also, being Windows-based, you need at least a 19" monitor if you want to use the toolbar menus, otherwise the drawing area is about the size of a postage stamp.

Recommendation - if you don't really need the new version, don't bother upgrading.

SPREADSHEETS

If you are looking for a design method, check out our collection of Excel spreadsheets, available for download from our Website (URL below). The sheets available include our very popular sheet for estimating emissions from open tanks.

At another location (chemengineer.about.com/ - the best chemical engineering resource on the Web) you can find a spreadsheet for designing and evaluating cyclones, designed by our chief engineer, Neil Stone.

All these are completely free, and we are always happy to hear from users with any comments, suggestions or criticisms.

THE VIEW FROM THE FIELD

Field Technician Fred Hasler is away in Los Angeles on an extended assignment. He will return for the next issue of Esco News.

PUBLICATIONS

We have a number of publications which are yours for the asking, at no cost:

'The Whys and Hows of sulfuric acid pickling'
'The Whys and Hows of hydrochloric acid pickling'
'The Whys and Hows of pickle line fume scrubbers'
'The Whys and Hows of waste water treatment for picklers'.

You can request your copies by phone, fax or e-mail, but we need a postal address - these are printed documents, and cannot be e-mailed.

INTERNET ADDRESSES

e-mail addresses:
jnstone@mnsi.net (Neil Stone)
pblokr@mnsi.net (Pete Blokker)
fhasler@mnsi.net (Fred Hasler)
pas@mnsi.net (Paul Stone)

Our **home page** URL is:

http://www.mnsi.net/~pas/esco.htm

GOOD FOR A LAUGH

A colleague just told us his latest response when they call to get him to switch long distance services.
He says "I don't have a phone."
They usually say "Oh. I'm sorry." and hang up.