Millennium Project Overview and Rationale

The new millennium represents greater opportunities and challenges in education and business. The world's population will exceed 6 billion people and an additional 78 million people will inhabit the world every year. One-sixth of the human population will lack the basic elements of human dignity, which are clean water, enough food, secure housing, basic education and health care. Our natural resources are being depleted at a rapid rate, while the quality of our environment continues to decline.

The Society of Tribologists and Lubrication Engineers (STLE) must provide a leadership role in advancing the research, development and application of the science of the science of tribology and lubrication engineering to improve equipment reliability. Each year billions of dollars are spent on the repair and replacement of equipment. This is certainly a waste of our natural resources.

To provide a leadership role, all of our committees and councils need the opportunity to work as a team on a specific project to highlight the improvements made in the field of tribology and lubrication engineering this past century. The millennium project would also, by invitation, include other technical societies and trade organizations. Since the project would be aimed at improving the quality of life, efficient use of our natural resources and the protection of the environment, matching funding will be sought from the Federal Government.

Solicitation of ideas for the millennium project will be done over the next 6 months. Ideas and proposals for projects should include the areas of:

- Bio-medicine and processing
- Transmission
- Computers
- Chemical and petroleum processing
- Other

A steering committee has been formed to evaluate the effort and accept proposals for the millennium project. Proposals for projects should be submitted to any member of the steering committee or to STLE Headquarters at 840 Busse Highway, Park Ridge, IL 60068-2376, phone (847) 825-5556, FAX (847) 825-1456 or e-mail information@stle.org.

STLE wishes to thank its current Steering Committee Members:
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  National Science Foundation
- Dr. Donna Meyer
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- Roger Ilanby
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Register online today at www.stle.org, or call ILMA HQ at (703) 864-5574 for your copy of the Preliminary Program.

September 2000 LUBRICATION ENGINEERING

Left in Limbo

Food-grade lubricant manufacturers continue search for regulatory replacement for USDA

When the U.S. Department of Agriculture was cut from food-grade lubrication inspection almost two years ago, it handed control over to the honor system. The food-grade lubrication manufacturing industry has now been entrusted to itself.

The USDA was forced to leave when President Clinton ended their services effective September 1998. Part of the Clinton administration's Reinventing Government campaign, the cut proved to save taxpayers about $300 000 a year. However, in eliminated prior approval of proprietary substances and non-food compounds including lubricants, it left the food-grade lubricant manufacturing industry scrambling to find the balance it once had.

T he food-grade lubricant manufacturing industry has since longed for the good old days where a built-in regulator would ensure that the chemical composition of each lubricant ingredient met a set of industry standards. Lately, the food-grade lubricant manufacturing industry has found itself turning to experts within to ensure that lubes do not contaminate food through incidental contact. The matter was even a forum discussion at the 2000 STLE Annual Meeting. What have they come up with could be reassuring to some, but troublesome for others.

The old system empowered the Food Safety Inspection Service, which as an arm of the USDA, inspected food processing practices. The FSIS would summon written summaries of product formulations and would check for compliance with Food and Drug Administration regulations. When the USDA got out, the food-grade lubricant manufacturing industry soon discovered that it might need a third party to oversee operations.

STLE member Michael Raab is a synthetic specialist for food grade lubrication with Andfer, a New Jersey-based lubrication manufacturing company and unincorporated division of Royal Lubricants. He believes the problem is that plant managers and food producers are now required to know and understand the chemistry of a particular lubricant.

"I'm not a chemist, I'm a marketer," Raab said. "The exit of the USDA from the command and control role changed significantly the way the food-grade lubricant manufacturing industry can do business.

It is being suggested that the lubricant formulator should prove compliance through the food-grade lubricant manufacturing industry's recognized standard, known as CPR 21.170-19. However, most companies, including Andfer, would probably not be willing to do that on a routine basis unless they had an incredibly large customer. This opinion has led to the emergence of the third-party arbitrator.

Three organizations have come forward bidding to become the new third party and are already up and running. The National Lubricating Grease Institute (NLGI) and European Hygienic Equipment Design Group are offering service based on the former USDA plan, while Underwriters Laboratories Inc., (UL) has a more elaborate program that is explained on its website.
"No processing plant would risk being shut down by an inspector who didn’t know how to handle a lubricant that is not on the old list, nor would a formulator use a new component that lacked prior USDA approval."

Fred Litt (Member, STLE) of Functional Products on why a qualified replacement needs to be found

The other group vying for control is NSF International. NSF has been at the forefront in developing a regulatory agency for lubricant making seeking outside certification. The Ann Arbor, Michi-
gen-based company not only saw an opportunity to serve as an industry cop, but also a window to establish provisions that the USDA had planned to do before it was cut from the process. According to Kla Dammeyer, NSF’s Manager of Technical and Regulatory Affairs, his company decided to take those ideas further since they had several requests within the food-grade lubricant manufacturing industry to do so.

"The food industry thought that we needed to get into this, so that’s why we decided to take the draft guidelines document, compare them to what the USDA had, and put together an equivalent program so that the USDA was doing," he said. "The USDA program was not a testing program, it was a formulation revision, verification and a label-review program."

To keep from scaring off clients who might have assumed NSF would require yearly audits and quarterly tasting, Dammeyer said NSF wanted to offer exactly what the USDA was doing because it was very well respected within the U.S. and throughout the world. Their goal was to emulate that without making any drastic changes.

"There have been many requests for us to add auditing, adding testing, etcetera," he said. "That is something we’re doing on a limited basis whenever we have any questions or specific concerns about any type of material that is being looked at under this non-food compounds program. Specific to the lubrication in-
dustry, we have received a lot of requests of both sides to keep inspecting and to keep inspecting exactly the same way, they would look at teeth, but to add them more teeth to it, if you will, to add some technical testing."

The USDA did not conduct audits of a manufacturer of a compo-
ten.

Inspectors did not go to food processing plants to make sure specific percentages of each ingredient were put into mixing tank. NSF is maintaining the same guidelines, except in their formulation review, they also propose to request samples to could conduct further testing.

These ideas aren’t without critics, however. Dammeyer said the biggest concern is that for the first time, inspections would be conducted with a fee. Even though NSF is a non-profit company, he said they do have to cover their time, materials and overhead to be able to conduct these kinds of reviews.

STLE member Carl Ward of Chevron’s Gas and Temperature division in Richmond, California, believes that costs would pose a problem with smaller companies. Ward also said he is not sure if the food-grade lubricant manufacturing industry is ready for third party regulation from within.

"It’s a big question on my mind," Ward said, "whether the people representing the industries and the companies that are represented in this working group are really as a group ready to agree that there should be a more rigorous kind of inspection than there ever has been?"

Ward cited that the USDA, as far as lubricant plants were concerned, never came on-site and looked at plants. What they did do was review formulations on paper. They would request samples of products and USDA examiners would simply make sure the ingredients in the formulation were consistent with the FDA’s approved substance list.

"It’s not clear to me that the food-grade lubricant manufactur-
ing industry and the people involved on the whole are will-
ging to be inspected," Ward said. "They are on-site inspections.

Ward believes that NSF would have done this regardless of what the food-grade lubricant manufacturing industry demanded. He also said organizations like UL and NSF have historically been more rigorous, in that with any inspection, they insist on a certain minimum number of annual on-site visits. If this was done, Dr. Giani Fagan of the Bul-Hay Company, a lube manufacturer in Farmingdale, N.Y., said he thinks he spoke for the majority of the food-grade lubricant manufacturing industry, saying it would be expensive and that it would have to be conducted on a limited basis.

"At all costs, we are in business here and we’re trying to make some money," Fagan said. "So to deliberately devise a system where our products would be inspected, our plants would be inspected to the point where the costs would become astronomical and we could no longer afford to produce these at a price that anyone would want to pay. We don’t want to go in that direction, either."

Ward said smaller processors might not be able to stand the scrutiny of plant inspections that NSF has proposed and pay for a third party’s services on a regular basis. He said there may be a strong tendency for people within the food-grade lubri-
cant manufacturing industry to stay with the conditions that exist now.

He said UL already does this and charges a fee every time they inspect for-
mulations, which could mean hundreds and possibly up to $1,000, but it would be an extra fee to consider year after year.

"You’re not talking huge amounts of money, but how much do you want to open that can of worms?" he said. "Having inspectors come on-site and going through your business more, would you alarm the public unduly if you opened the thing up for that type of scrutiny or would you be reassuring people?"

An idea Fagan supports involves extending the formulary program to maybe some point where it could be implemented — an easy next step. It is something that he said the food-grade lubricant manufacturing industry is starting to talk about.

Regardless of who or what it is, a group acting as the USDA did will have to be found if any process is to be made in the industry.

According to STLE member Fred Litt of Functional Products, without a system for documenting the suitablity of new ingre-
dients, the food industry would never again be an in-
novative product introduced.

"No processing plant would risk being shut down by an inspector who didn’t know how to handle a lubricant that is not on the old list, nor would a formula-
tor use a new component that lacked prior USDA approval," Litt said.

The stop-gap solution currently being used is USDA’s Hazard Analysis and Critical Control Point System (HACCP). This has been considered problematic by many lubricant producers because it po-
tentially requires disclosure of confiden-
tial and proprietary formulation details to a wide range of organizations. But un-
till another system is adopted, HACCP stays. Only time will tell which solution comes out on top.

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