Creating a Sanitation Plan

Sanitation Plans

So this will lead us into the next part of the program and also the second aspect of the premise regulations is that a food processor must have a written sanitation plan.

And so our goal here is to discuss the regulatory requirements of the written sanitation plan in BC, list the benefits of having a written sanitation plan and explain the content in each part of the written sanitation plan. You may notice that I keep saying a “written sanitation plan,” and I think that's because this has been the big change. I think people were certainly having sanitation activities but now there is a requirement to have a written sanitation plan.

And so again, on the BC Ministry of Health website there are templates for the sanitation plan. And I think the format that's used there is an excellent format. And I've been using it with a variety of food companies that I work with because it really clearly states the rinse-wash-rinse-sanitize aspect of the four-part sanitation program.

So as part of the food premise regulations, there's three aspects to it. First that you must have a cleaning and sanitizing method for each premise area, all equipment and all utensils that you're using in the facility. So we'll take a look at some of how you write those documents. Then you need to have a list of all the chemicals that are used in the sanitation program. So we did make a list in the product description in our food safety plan, in our incoming materials form. But here we're adding a bit more information as to like where we store it, how we apply it and most importantly what concentrations we're using of the various chemicals.

And then finally, the food permits regulations require that people have a list of pesticides. Now, most food companies do employ a third party, a pest control company to do the pest control for them. But just as part of the regulations we want to be aware of any chemicals that are being used. And I think we're all aware that you can't use pesticides within an operation. Not inside the food plant but they might be used in the perimeter so you need to include them on the list.

Sanitation Steps

So the benefits of having a sanitation plan. The templates that are used here they're an excellent teaching tool for training your employees to how to do the cleaning, but they also will ensure that you meet the regulatory requirement of having a plan. And by having well-documented procedures of the overall cleanliness of your facility will be good or improved. I'm going to reduce the risk of pest infestations and its contribution to food safety will hopefully have no recalls and strengthen your company reputation and ensure customer satisfaction because they're getting a wholesome product.

So just before we begin, I thought I’d just give a little review of the four steps of sanitation and then the four factors for sanitation. And used in combination, I think you can clean anything if you understand these four steps and the four factors. So let's take a look first at the four steps, and you might see it as “pre-rinse” or “prepare,” but you want to make the work area ready to be cleaned. So you're going to... It's the end of the production day, you will put away any packaging materials, remove the garbage, get the area ready to be cleaned before you start spraying water around.

And then once we're ready to go, we'll start with the pre-rinse and its purpose is to prepare the system or area for washing. So by we want to remove any food residues that are there so that when we apply our chemical it'll work more effectively. And the third comment there, keep CIP and COP tank for your food residues. Remember that in a CIP system our cleaning chemicals are circulating for a period of time, so if it's picking up a lot of food residues we're going to contaminate our CIP tank and we'll have to dump it and start again. So remove the food residues so that the area is ready to be cleaned.

Our step number two is wash. And so at this point we're going be removing all food residues and soils from the area and the detergent will be doing its job. Most of our cleaning chemicals are caustic—so high pH, and so they have their action of cleaning the area. And its goal is trying to remove—remember FAT TOM here again, we don't want any food residues on the surfaces that will enable any bacteria to grow. We eliminate soils that can affect equipment efficiency such as heat exchangers.

You know, we don't want that buildup of... Well, in the dairy industry we call it milk stone. But we just don't want any buildup of contaminants that make our equipment difficult to work. And then we remove any soil deposits that can harbor microorganisms. So, that's the washing step. And so keeping in mind that it's generally at a high pH, then we need to do an effective rinsing step so that we can return the surface back to neutral pH so that our sanitizers will work effectively.

And then we want to rinse off the chemical so that any soil that was there goes off with the cleaning chemical and then we turn the area to neutral pH, and then we're going to apply our sanitizer and its purpose is to reduce the number of microorganisms and eliminate pathogens. I find sometimes, you know, one of my pet peeves in food plants sometimes as I observe people cleaning with sanitizer, and I think we really need to understand the difference between detergents and sanitizers and ensure that they're being used at the appropriate time. So those are the four steps of sanitation.

And then I have the four factors for sanitation and these we use in various combinations. So we have chemical, we're going to use a chemical and then generally there's a time and temperature combination. And then finally turbulence. So turbulence can be something as simple as our elbow grease just doing the scrubbing, or we might be using a foaming system or CIP where the turbulence is 30 minutes of the cleaning chemicals circulating through the pipeline. Time and temperature and chemical—I'll just give you some examples of how you use those in combination.

Most frequently we'll use a chemical and it might be being used with hot water, and we'll be doing something for 10 minutes. In my experience working in whey processing we were using ultrafiltration equipment, very delicate membranes that can't handle the high temperatures. So there was a situation where we used lots of chemical, low temperature and a lot of time. So we're balancing these things out, and the turbulence was gentle. So you use those four factors in combination. So you might be using hot water, very hot water.

I've done that too where we're using very hot water and some sanitizer to do the sanitation step. So you use those four factors in combination and apply them with the four steps of sanitation, and you can clean anything I believe.

Cleaning and Sanitizing Requirements

So let's take a look at what the requirements are for the written methods for your sanitation plan. So the first part is to identify all areas of your establishment that need to be cleaned. So it's part of your prerequisite programs, you're going to have a list of all equipment, you're going to have a list of all utensils that you're used and you will also need to identify premise areas that need to be cleaned.

And in your method, you're going to indicate how frequently they're cleaned, who's doing it and the method that they're doing. And the record-keeping is quite important. Now, I find that in most food plants, we're very good with the daily cleaning because we use something today so we'll clean IT. What's more challenging is to establish a schedule for infrequent cleaning tasks like cleaning out a cooler, cleaning out a storage area. But following this format that's available on the website you will establish that frequency and ensure that all areas of the plant are cleaned with a suitable frequency.

So as I said it's a standard template. And we'll just take a look at cleaning an establishment area, just so you see the format of this document. So keep in mind rinse, wash, rinse, sanitize. And here we're starting with an establishment area. And so they're describing how they're going to clean the walls, floors, doors and ceilings, exterior walls of the coolers, etc. And they're going to do it on a weekly basis. Our prepare step, any protective equipment, PPE that employees need to wear when doing these tasks should be listed here, The tasks associated, you know, that you need to do before getting started.

So they're going to remove the food and packaging materials from the room. Identify any equipment that needs to be locked out. So we're also including employee safety, as well as cleaning procedures here. In this case, they're doing a cooler so they're going to have to remove any ice buildup and then they get ready to do the cleaning. So they're going to check the temperature of the water and the solution concentrations. Our next step is to pre-rinse so we're going to remove the visible soils.

They're applying detergent with a foamer here so turn on the switches, adjust the air and they're going to foam the equipment. And our instructions should include the contact time. So they're going to leave that chemical on depending on what their supplier has told them, but let's say 10 minutes.

And then after that we'll rinse with hot water to remove all of the detergent and return the surface to neutral pH. And see they mention here I've used a “squeegee, remove any excess water from the floor.” Remember we don't want any pooling water in a food plant which might harbour microorganisms.

Prior to sanitizing we want to inspect to ensure that the surface is clean. And so it's good to get a flashlight and a check little corners and if it is clean, then carry on with the sanitation step. But if not, we'll go back to step number two and rewash the surface and inspect again and then sanitize. So then we want to complete the method by including all of the cleanup steps so that our area is left clean to start up the next day in good form.

So then are another example, so that's for a premise area. Here at the filling machine, it's the same format of prepare, putting on any protective equipment and then the four steps, rinse, wash, rinse, sanitize.

But when you're doing pieces of equipment you may need to include how to dismantle the equipment. And I find nowadays that because of the ease of taking pictures, people are inserting pictures in these methods of how to take the equipment apart. And that's very helpful to make these documents useful as a training tool in the facility. So here in the filling machine they have to disassemble it. And they're safely putting everything in a bucket so they don't lose any parts. And the frequency is established as daily and then identify who's going to do it.

And then the remaining steps of the filling machine are we're going to rinse it all with the, to get the pH back to neutral so our sanitizer will work. Again, we'll inspect and reclean if required. And then our sanitation steps. And depending on the piece of equipment, you may leave it to dry before putting it

back together or it may be okay to assemble at this point. But that you'll have to get from the manual for the equipment.

And then we have our records. And so again think of this record as monitoring that the cleaning procedure has been done. So they have their daily cleaning.

So the weekly activity for the premise area, the filling machine, and then the scoop which probably went in the dishwasher has been recorded that it was cleaned daily after use. Then at the end of the week, another person perhaps QC or a supervisor reviewed the records and ensured that the cleaning procedures were followed and signs and dates and records that they've been reviewed. So that's the format that we use to write the methods for cleaning premise areas, pieces of equipment and any utensils that you use.

Cleaning and Sanitizing Agents and Pesticides

As part of our written program we also need to prepare a list of the cleaning and sanitizing agents that we're going to use. And again it's a simple table format. And just to make that distinction that our cleaning chemicals or products used to remove dirt, grease and oil from a surface and so those are detergents and degreasers. Generally, a high pH caustic containing products. And then our sanitizing agents, its goal is to kill microorganisms or reduce our number to a safe level. And there's a variety of sanitizers we use in the industry, chlorine, of course, is quite common, quaternary ammonium products, peracetic acid. These are some examples of sanitizers that we use in the industry.

When you are preparing your written sanitation plan then at a minimum you need to be getting specification sheets and MSDS sheets from the supplying company and so include the name of the sanitizer or the cleaning chemical, you're mixing instructions, concentrations that you're going to use. How do you use it? Are you using a foamer? Is it going into a CIP system? Just so we understand how it's used. And make—ensure that the concentrations are written as the way you are using it with the measuring devices that you're going to use. Not just simply copying it from the back of the bottle and then indicate how they're used, and also how they're stored should be included in this table.

So the example here we've listed off are cleaning chemicals, mixing instructions, five mils per liter of water and then indicated what surface area or premise area the product is being used on. And then for our sanitizers, same thing, we've listed off the chemicals that we're using, the use rate and then where it's going to be used in the establishment.

Then the final part of the sanitation plan is the identification of the pesticides you're using in the facility. And as I mentioned, most companies will probably not be using any on their own accord but there may be some from the outside pest control company that they're employing.

So pesticides, products used to control pests. Again, you're not allowed to have them in a food plant, we should only be using mechanical traps. And similar to the sanitation chemical list, you just want to name the chemical, how it's used and how it's stored at the facility.

And so here they've mentioned that it's securely stored in a locked cabinet and that they're only using pesticides at the exterior to control rats and mice. So that's pretty simple what needs to be included in this plan. Of course, the bulk of the work is getting the methods written. And hopefully you can group your methods together, like I have one facility where I work the methods we've written are for the

dishwasher. Again, there's still prepare-rinse-wash-rinse-sanitize, although we're relying on the dishwasher to provide the turbulence and the time and temperature.

And then I have another method that's all the manual cleaning activities where we're taking a bucket of cleaner or some places use spray bottles, taking that cleaner to the surface that they want to clean. And then I have also how to use a foamer, but fundamentally they're the same where rinse-wash-rinse-sanitize, and they're useful for training people on how to do the methods. But as well, if you can group things, like here's what's manual cleaning, in your left-hand column there you can list everything that's going to be cleaned with that method and list everything that's going to be going in the dishwasher.

So it's not as a big a task as it might seem if you were writing one for every piece of equipment. So those are the requirements of the written sanitation plan. And so your sanitation plan is finished if you have written methods for cleaning everything, that you've established your record-keeping, you prepare a list of the cleaning and sanitizing agents that you're going to use and also you have a record of any pesticides that you may be using in the facility.