POWERPLUS
CLEANING SOLUTIONS

FUKUSHIMA JAPAN

WHAT WE LEARNED

On July 2nd, 2011, Powerplus Cleaning Solutions presented to the Japanese government its proof of concept in decontaminating radiation levels, which are currently plaguing Japan as a result of the recent natural disasters. In summary, we experienced both success and learning experiences. The knowledge we gained during our stay in Japan brought us to the cutting edge where technology, theory, science, and application all come together to create a solely unique service.

The personal request to present our information and positive feedback from the Japanese government is quite a degree of a success for our company. Powerplus may not have all of the glitter of a multi-billion dollar corporation, but what it lacks in polish, it more than makes up for in knowledge, resourcefulness, and keen minds. This team has collaborated with scientists and radiological professionals that have all confirmed what we knew the entire time: the Powerplus disaster reclamation technology works, and it works very well.

What happened during our stay in Japan? Well, shortly after arriving in the country, our team set about getting the command center and equipment ready for the task that lay before them. Each piece of equipment was accounted for and carefully recorded, and our machine was inspected and prepared for decontamination (the machine, due to strict FAA next day export restrictions regarding fuel and equipment, could not be properly tested.) The next day would prove interesting, to say the least.

UNLOADING EQUIPMENT

As the next morning's sun broke the skyline, the team set up the equipment at the selected site for decontamination, a local baseball field, under the watchful eyes of news-reporters, colleagues, representatives from local government, and nuclear facility workers. Many of the spectators had brought radiation testing equipment they were able to obtain from various locations but all had one thing in common: they all only measured Gamma Radiation. This seemed peculiar to the team, who came ready to monitor multiple types of radiation, including Beta and Gamma. We learned that the presence of Alpha and Beta radiation levels are not being monitored by local government or facility workers. Clearly, many people we encountered are not fully aware of the real dangers of exposure to all types of radiation, including those that are not being tested.

For the uninitiated, Alpha radiation is the worst type of radiation to deal with. Although it is easily blocked (a piece of ordi-

TEAM MEMBER DECONTAMINATES USING CLEAN AND CAPTURE TOOLS.

nary paper is plenty to stop it) it can be up to twenty times as harmful as Gamma radiation if it is ingested. Beta is a close second, with twice the potency of Gamma radiation.

"A representative who was there announced it over the loudspeaker to the sounds of "ooooo" and "ahhhh" coming from the gathered crowds."

During the demonstration at the baseball field, the machine initially experienced some minor technical difficulties. Of course, the timing was impeccable with all the cameras and reporters quite literally hanging over the team at every movement. The team set about to decontaminate an area of grass that was close to the field and just outside the bleachers. After a single pass, the amount of radiation that we sampled actually had RISEN after the single pass. This astonished us but did not stop the demonstration from continuing. We moved on to the field itself and started taking samples. Another important lesson we learned was that radiation does not cover any given area evenly. In fact, there were many areas where you could walk through with doses around 220-240cps, which is about triple the normal amount for that area. In other areas where there was "biological mass" (i.e. moss, mold, mildew, or growth of that nature), the levels for these "hot-spots" were in excess of 16,000cps! In other places, veritable "radiological sponges" had sent radiation levels off the charts, such as around the concrete around the bleachers, in areas where water had been allowed to pool or become stagnant, or wherever small growths were allowed to populate.

The team set out to clean these spots but kept getting confusing results that just did not add up. We were getting lower emissions after cleaning but they would spike from location to location in a seemingly erratic pattern. It was then noticed that there was "cross-talk" happening from other radiated sources in the nearby sampled areas. After some testing and the creation of the "cone of shame" (a radiation shield that surrounded the tested spot with the meter in the middle), we finally concluded that a sampled area had to cleaned with a diameter of twenty four feet in order to prevent other surrounding levels from interfering and significantly influencing the results of the tested spot. With this dis-

	GAMMA			BETA		
FEATURES	BEFORE	AFTER	%	BEFORE	AFTER	%
HOT SPOT	7100	320	96.7	4100	500	87.8
ASPHALT	135	67	151.1	2150	315	85.3
TENNIS COURT	240	109	87.3	810	197	75.7

Results shown include "background correction"

covery, we suddenly started recording improved results that greatly favored the use of our cleaning technologies.

As the team moved to decontaminating hard surfaces (concrete, asphalt, etc.), we had outstanding results, with 50 – 96.7% drops in radiation levels. We even recorded some instances of cleaning to below normal levels of radiation. These numbers flabbergasted those who watched the demonstration. A representative announced these astounding results over the loudspeaker to the sounds of "ooooo" and "ahhhh" from the gathered crowds. This greatly encouraged our team as we pressed forward with testing and analyzing results and methods of cleaning. Every new adjustment seemed to improve our results and brought a heightened degree of understanding for the decontamination process.

The next day, despite the hot and humid climate, our team set to cleaning a tennis court with a new hope and renewed optimism. The first section of the court was cleaned with methodical precision. Strokes of the cleaning wand were overlapped to produce the best results. When reminded of the impending time deadline, the Powerplus team moved into high gear, quickly and efficiently sweeping the field. These results were expected to be less than perfect; however, we still achieved a rating identical to the first section of the court that we had spent so much time cleaning. Not only did we have the technology and methods to clean radiation off of any given surface, but we also had the ability to clean with surprising speed and efficiency.

After returning home, we began researching and developing new methods to deal with some of the more difficult issues that we encountered in Japan. Firstly, although the presence of grass did not worsen contamination, we discovered that cleaning soil beneath the grass required multiple passes in order to remove radiation from blades of grasses that acted as radiation sponges. Secondly, we learned that we needed a better shield for radiation monitoring to obtain accurate decontamination results.

Powerplus has also developed other methods and technologies that scientists, labs, and companies agree will greatly improve our results. In fact, there are a number of companies that are strategically positioning

TEAM MEMBER TAKES READINGS.

OUR DEMONSTRATION TEAM

themselves to become partners with us in this endeavor. During the next several weeks, Powerplus is scheduled to visit a DOD laboratory to test these theories and gain more solid numbers to support our claims. Among the new technology are two new wands specifically designed for faster decontamination and better yield. Additionally, the team created a decontamination platform that can be driven, which had previously been under development as a cleaning tool for the NFL.

In summary, we learned a lot about the decontamination technology, team, and process. All in all, it was a very positive trip and provided invaluable experience. Despite our short stay in Japan, we realized time and again the cost efficiency of our program. Other companies have responded to the decontamination effort by proposing the tearing up of roads, buildings, and ground to displace radioactive material into landfills, which can only be contained at an astronomical cost to the tax payers of Japan. Powerplus believes in simply cleaning the existing areas with contemporary cleaning technology, which saves existing property as well as billions of dollars. If you think that this is the end of the story, guess again! Powerplus has again been requested and is to schedule a demonstration for another group in Japan in the coming weeks. Our company is sending a $250,000.00 mobile radiation lab to Japan in anticipation of our next visit. We are confident that we will far exceed our excellent results from the last trip. Rest assured, we will be going in full force, ready to give a spectacular demonstration and prove to Japan and the world that we are the cleaning solution.

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