



**DEPARTMENT OF THE ARMY**  
U.S. ARMY ENGINEER DISTRICT, HONOLULU  
FORT SHAFTER, HAWAII 96858-5440

REPLY TO  
ATTENTION OF:

CEPOH

1 October 2001

Memorandum for Record

Subject: Responses to Mr. Bud White's Comments on Interim Draft Treatment Plan, Tanapag Village, Island of Saipan, CNMI.

The available documents do not make clear how much water will be needed for the ITD system on an on-going basis. Tanapag is on water hours as it is, and some accommodation would have to be made if the treatment system were to exacerbate the present situation. It has been said that salt water could be used in the process, but we have seen no indication that it will be used instead of city water.

*After considerable review and discussions with CUC, a dedicated water well will be installed to provide the water on a continuous basis to the ITD. Brackish water may be utilized. RAW seawater is not desirable.*

Island power in general, and power on Tanapag's feeder in particular is not reliable. The village suffers periodic unannounced power outages. The available documents / information would seem to indicate that it is important that the ITD process not be arbitrarily interrupted. Yet there is no indication that the unreliability of power has been accommodated. A generator is needed that will automatically take over should power fail. Provision also needs to be made to protect against power fluctuations.

*CUC has promised to notify ECC at least 30 minutes before feeder 7 (Tanapag) is taken off line. Also, CUC may request ECC to discontinue service to meet generation commitments. ECC will provide a primary generator and use CUC power as backup.*

The documentation indicates that air pollution, either from dust, or from gases created in the ITD process, are of concern. Assurance is needed that no hazardous gases will escape the system, that no harmful pollution will occur, and that nuisance pollution, such as dust, will be kept to an absolute minimum.

*All release points for vapors are continuously measured to assure emissions are in compliance. Fugitive (visible at fence) dust emissions will be measured and cease operations levels set based on analytical results during start up. Ambient air will be monitored, both in a real time mode (dust) and time weighted average (TWA) for PCB's.*

The treatment system is expected to operate 24 hours a day. There is no indication of how much noise the system generates, and what steps will be taken to minimize noise, particularly nights, weekends, etc.

*The system does generate some noise during operations. Noise mitigation will be accomplished by arranging the plant such that the loud side faces the ocean, thus reducing exposure. The only expected weekend operation is ITD treatment. Excavation and soil handling operations such as crushing will occur during weekdays.*

The treated soil will, apparently, be sterile. I believe it is the responsibility of the ACE/contractor to restore the soil to its original organic condition.

*The soil will be amended to restore its organic content, as described in earlier responses.*

Cemetery #2 is adjacent to the site where the PCB laden soils are being stored and may be cleaned or removed from this site. What will the impact be during cleanup operations to the use of the cemetery? For example what will the impact be to the people who are visiting the cemetery? How about burials? What about “All Souls Day” and other religious holidays? The people from the village of Tanapag sue this cemetery every day and they want to know what will happen to their use during the treatment or removal of PCB laden soils?

*The cemetery proper will be open for public use. Arrangement can be made, with advance notice to allow, for uninterrupted use of the cemetery during burials and religious holidays. On such days, ECC will shut down the system and use the day for maintenance. A fence will be built around the treatment area.*

What are the risks of neighboring properties being contaminated from airborne dust that conceivably will result from all the soil movement into the treatment process? Have these risks been quantified?

*Since the nearest resident is not for 100s of meters from the plant, risks are minor. Dust control will be used lower any airborne risk: stockpiles will be covered when not in use, there will be minimal handling of the dirt, and perimeter air monitoring will occur during treatment.*

In the treatment plan you mention that in the case of a contamination leak that people will be moved to other facilities. Have you considered the 3,000 Chinese garment workers, which live within a few hundred yards of the site? Will you brief these people about what is going on and any potential danger? Is there any probability for an international incident, which could be raised for political reasons by the government of China regarding their citizens? Have you had discussions with the U.S. State Department on your plans?

*ECC has taken into account a ¼mile radius for containment purposes. Public meetings will be available for information about treatment and information will also be on hand at the site. See*

*the public relations plan by the USACE.*

In the treatment plan you mention that you intend to connect to public utilities. I would caution you to have backup water storage and back up generator power. The Commonwealth Utilities Corporation (CUC) sometimes has problems delivering water 24 hours per day. Power can also be down because of storms and equipment problems at the CUC generating plants. If you intend to connect to the CUC sewer line they will probably want you to install a holding tank and assure that no chemicals are inadvertently introduced into the sewer system.

*ECC will be prepared for back up power and storage tanks. ECC is exploring the possibility of using other sources of water, such as drilling a well, or a tank for storing rainwater. For example, pursuant to consultation among ECC, the CNMI Commonwealth Utilities Commission (CUC), and the DEQ, it appears it will be necessary to install a well to draw brackish water from the tidal aquifer in order to operate the ITD unit. Use of this non-potable water will avoid an adverse impact on the community's drinking water supply.*

When you do the detail design for the site installations on Saipan you should consider the following: (a) Torrential rains; (b) Typhoons; (c) Tidal surges; (d) Earthquakes; (e) High ambient temperatures coupled with high humidity.

*ECC concurs. The ITD equipment will not be operated in severe weather conditions.*

The site should be designed to withstand 200-mph winds. The last super typhoon occurred on 3 Dec 1986. Winds were in excess of 200 mph in the village and there was a tidal surge greater than 14 ft. Note this is 10 ft above the current site elevation

*The system is rated at 150-mph. In the event that strong winds are expected, the system will be locked down and sealed. A super typhoon or a large tidal surge will cause some damage to the equipment. Recovery of the damage should not exceed four weeks.*

You may also want to consider building a berm around the entire site. This would mitigate rainwater incursion and should keep chemical spills from leaving the site.

*An 8" concrete curb will be constructed in the ITD treatment area to contain spills and water incursion. Large storm events will cause a shut down and the site secured to prevent the spreading of contaminated soil. In addition, contingencies have been established for potential chemical spills, and will be followed.*

I see in your plan that you have 1 person assigned ½time for quality assurance. I question if this is enough coverage for a 24hr-7day/week operation. I also wonder about his objectivity when he has

responsibilities as the thermal engineer.

*Quality assurance is considered procedures and protocols for work. Quality Controls rest with individuals. One part time quality assurance employee will be assigned, with independent corporate control.*

*The thermal engineer will not be assigned the Quality Assurance position. However, the thermal engineer's main objective is efficiency and timely compliance, therefore quality and safety are part of his responsibilities.*

I couldn't find anywhere in your plan where you would shut down because of weather conditions and secure the site. I may have missed it but if not, weather should be considered.

*This information is covered by the 60% availability mentioned in the text. This includes site shutdown during severe weather systems.*

Equipment maintenance on Saipan is challenging. In addition to high humidity, where everything rusts, we are a long way from civilization. Has anyone identified single point failures for the ITD process? Will there be adequate spare equipment on island to deal with these failures?

*Yes, this has been taken into consideration and ECC will have several containers of spare parts on hand. Additional parts are available from the mainland, if needed.*

I see that you intend to reduce the current stockpile of 20,000 tons of contaminated PCB laden soil to 400 tons. You then intend to utilize Fentons Reaction on these 400 tons of residue. I was not aware that it has been demonstrated that you can reliably reach less than 1 ppm of PCB's with the Fentons Reaction process. Have you considered just shipping the 400 tons of residue off island and not even attempt to treat this residue with a Fentons Reaction process?

*The 400 tons will be packaged and shipped off island. Fentons Reaction will not be used. The references will be removed from the plan*

The current work plan should be completed and updated to reflect exactly how the processing will be done and what instrumentation will be added to automate the process as much as possible. Data from the instrumentation should be published on a web site and be available to concerned citizens in real time. There should be no out gassing or emissions from the process unless they are instrumented and continuously monitored. When limits are exceeded, including airborne dust the process should be immediately stopped automatically.

At the end of the process where the concentrated PCB's are collected in a cake from the filters this

should be automated and completely contained. The cake should be placed in storage drums with the minimum of personnel handling ready for off island shipment.

There should be a detailed plan dealing with the handling and shipping of the residual 400 tons of soil/cake after processing. This plan should specifically address all handling steps and all interim storage facilities either in Guam, Hawaii, or the US mainland before ultimate destination. Are there going to be any problems along the way? Lets identify and work on those ahead of time. Someone may want to run this by Green Peace and the Sierra Club. Are there going to be any problems with shipping the 400 tons of material back to the US as far as territorial waters or port of entry? Again lets identify any of problems ahead of time and work them so we don't have a ship with 400 tons of PCB laden soil steaming up and down the west coast of the US.

At the conclusion of the cleaning operation and after the residual soil and equipment has been removed the area should be landscaped and made into a park complete with paved parking area and playground equipment. I think it would be the right thing to do for the people of the village of Tanapag. ECC should also plan on bringing their own power generator and drilling a well for water.

I would like to be advised when the final work plan is revised and ready for review. I would also like to see the detailed plan for dealing with the residual 400 tons of soil/cake after processing.

*The ITD plan will be updates to reflect these comments as well as those received from the EPA.*

*ECC and the USACE is evaluating and considering the real time display of data.*

*The instrument interlocks do account for any condition that could create out gassing. Real time monitoring is present for dust. The feed will stop during high dust events.*

*Filter cake is managed as a toxic waste. Some manual handling of the filter cake is required, and will be done in accordance with safety protocol. The filter cake will be stored in lined sacks and stored in containers for offsite shipment.*