

The
ALTERNATIVE/EXPERIMENTAL WASTEWATER TREATMENT TECHNOLOGIES
TECHNICAL REVIEW COMMITTEE (TRC)

The meeting was held at the Quonset Development Corporation Annex
95 Cripe Street, North Kingstown, RI

June 15, 2011

Approved Minutes

Present: Ken Anderson, Noel Berg, Russ Chateaufeuf, Susan Licardi, George Loomis, Brian Moore, Tim Stasiunas and Dennis Vinhateiro

Absent: Dave Burnham

Others Present: Matt Gamache and Deb Knauss (DEM)

Call to Order: 8:50 AM

Materials Distributed:

- Draft Agenda for this meeting
- Draft Minutes of 3/30/11 meeting
- Copy of letter from Fuji Clean (4/12/11) (re: Fusion tank formulation)
- Email from Deb to Russ (4/14/11) summarizing the status of the Fusion application as of receipt of letter from Fuji Clean
- TRC meeting references to Fusion
- Deb's summary of the Fusion application, including data summary and Laak calculations
- Letter from Deb to Jason Churchill dated June 10, 2011 regarding new technology application required for AX20-RT (RIDEM considers the orientation of the components a significant deviation from the AX20 Filter and does not consider them equivalent).
- Email from Deb to Jason Churchill dated 6/6/11
- A page from Deb's notes from the presentation Mary Clark and Bob Johnson made at DEM 5/18/11 on the AX20-RT
- OSI drawing of AX20-RT Mode 1A (single lateral/two nozzle distribution network)
- OSI drawing of AX20RT Mode 3A (6 lateral/multi orifice distribution network)
- Two AE Technology Program status reports (one reporting on the status of certifications and one on the status of pending applications).

Russ opened the meeting acknowledging the recent passing of Joe Frisella, and the sad loss of a good friend and colleague who had worked with the TRC since its inception many years ago.

Russ asked if anyone wanted to make any additions to the draft agenda. There were none requested.

Deb introduced Matt Gamache, who just completed his sophomore year at Bowdoin College in Maine studying environmental policy and is working with her during the summer.

RIDEM Updates

The revised OWTS Rules that were necessary to accommodate the new tolling extension have been filed. This revision also incorporated the revised liquid level for septic tanks from 48-inches to 39-inches.

Cesspool phase-out: DEM is about half-way through the process of sending letters to property owners that our research indicated may have a cesspool subject to the Act.

Review of Draft Minutes of March 30, 2011

George emphasized the importance of evaluating system performance and dealing with issues of poor performance during the process of renewing technology certifications.

Motion: Ken Anderson made a motion that the draft minutes be approved as presented.

Second: Tim seconded the motion.

Discussion: There was no discussion.

Vote: All present who were present at the meeting March 30, 2011 voted to approved the draft minutes as presented.

Other

Dennis asked if tolling should apply to technology certifications since it applies to all permits and approvals issued by state agencies. Neither Russ nor Deb had thought about the Act as applying to these certifications. Russ noted that tolling does not apply to repair permits, since they are not “development-related”, “development” being a term that is in the statute. RIPDES is also not development-related, and these are federal permits, so the tolling act does not apply to them because of these two distinctions.

Russ thinks that the Act does not apply to the technology certifications, but asked Deb to make a note of this question the record.

Tim asked about a specific repair permit to replace a cesspool with an AE system; the applicant has had some personal problems and has been relying on tolling to keep the permit valid until longer, until personal conditions improve. Would this permit’s validity be extended by tolling? Russ stated that although it is a repair permit to replace a cesspool, rather than respond to a failing OWTS, as a repair permit it will expire one year after it was approved, and the applicant will have to re-apply if the permit expires.

Ken asked for an update on the Charlestown proposal for an alternative nitrogen removal strategy to OWTS Rule 39. Russ reported that a draft ordinance has been brought before the Town Council and he thinks that it has to go before them twice. After receiving Town Council approval, a Memorandum of Understanding with a five-year term will have to be signed by DEM and the town. The town asked URI for a proposal to provide third party monitoring, which they have submitted; they have not heard from the town.

Orengo Systems, Inc’s AX20-RT Request for Equivalency

May 18th Mary Clark of OSI and Bob Johnson, of Atlantic Solutions (a distributor for OSI) made a presentation on the AX20-RT for DEM staff at DEM’s office. A few members of the TRC were able to attend. Deb called attention to the material she distributed for a brief follow-up to the presentation Mary Clark and Bob Johnson gave at DEM May 18th. She reminded the group that she had emailed them the entire collection of attachments that were sent to her by Jason Churchill in his emailed request for a determination of equivalency. She briefly described the component orientation and function and called their attention to the new distribution mechanism of two nozzles that distribute the effluent in a square pattern, which is reported to provide more complete distribution over the textile sheets. This is a very new innovation and was provided to her via email the afternoon before the presentation made by Bob & Mary. She explained that because the RT treatment system (one tank) is oriented so much differently that the AX filter (AX pod containing textile sheets, and a separate processing tank), that RIDEM considers it a different treatment system, and not simply re-packaging of the AX. For this reason, RIDEM is requiring OSI to submit a new technology application for Class Two approval, or apply for experimental technology approval, if they wish to pursue approval in RI and do not meet the criteria for Class Two approval.

There was discussion of the gravity discharge option that is available with the AX20-RT. Without a discharge pump, forward flow is an unknown and therefore the correct recirculation ratio cannot be established to optimize denitrification. Although FAST is a gravity discharge system, it does not recirculate and therefore forward flow is not needed to properly set a recirculation ratio.

Russ stated that before the technology renewal request is processed, they could be asked to test some of the systems and report the performance data to us. He asked if any one had any comments.

George reported approximate installation numbers for the AX and since we require service on a semi-annual basis, the number of service visits that need to be performed is quite large. It was questioned whether there are enough qualified service providers to perform all these visits and to actually perform effective O&M. Vendor training for service providers is necessary to increase the number of qualified service providers. George reported that people ask him all the time when this is going to be offered.

Tim asked if with telemetry it will still be necessary to go to a system installation, since we require two service visits a year, but it is not necessary that a system be cleaned twice each year. Telemetry would notice service providers of alarm conditions. Russ responded that we can look at this and consider revising it.

Bio-Microbics has scheduled their service provider training for June 29. It was noted that that the training is scheduled to be completed in an hour and a half. In response to Deb’s questions: the agenda does not indicate that a test is scheduled there is no mention of site visits.

TRC Vacancy

We need another member of the TRC representing the engineering profession, although not necessarily a Class III designer. Russ reported that there was some success with the listserv notice of a vacancy on the OWTS Designer

Licensing Review Panel. He asked for the group's perspective on filling the vacancy. It was suggested that candidates not be associated with any OWTS technologies. It was noted that many years ago, Calvin Poon a URI engineering professor served on the TRC. Russ asked if anyone could recommend any specific individuals. Dennis said that he knows a good, responsible engineer with whom he used to work that he thinks would be a good match. He will speak with him and see if he might be interested in working with the TRC. Russ will put a notice out on the OWTS listserv and bring the names of interested parties back to the TRC. Noel liked the idea of using the listserv to seek potential candidates.

Clarus's Fusion Treatment System

Deb reminded the group that Fusion's tank satisfies all of the elements of the IAPMO standard except the section regarding fillers and that she had quickly researched plastics production and discovered that the practice is common and imparts positive attributes to the finished product. She had emailed Wes seeking a letter from Fuji Clean stating that the current formulation has been in production long enough that the units manufactured using this formulation can be expected to have been in use for at least one year and also if the Finite Element modeling that was reported in the Fusion application submitted to RIDEM, was performed for tanks that were being made with the current formulation.

She called attention to the letter she distributed from Fuji Clean; this was provided by Wes Combs in response to the email referenced above. The letter substantiates that the formulation has been in use long enough to fulfill the requirements of the Rules.

Russ asked if the group is satisfied that the Fusion tanks are sound and if so, if anyone would make a motion to this effect.

Motion: George made a motion to accept the Fusion tank as sound.

Second: Tim seconded the motion.

Discussion: There was no discussion.

Vote: All present voted in favor of accepting the Fusion tank as sound.

It was requested that we carefully consider peak storage flow, and understand the ability of the system to trap and meter out treated effluent incrementally. It was noted that the largest of the three Fusion models, the ZF-800 has a total effective volume of 1040 gallons (this is the combined effective volume of the four chambers).

Tim asked about Fusion's treatment performance relative to other RIDEM-approved technologies. Fusion's treatment data is similar to FAST's BOD and TSS concentrations.

Alabama approved a 50% leachfield reduction for Fusion in their most permeable soils and 10% in shrink/swell clays. George suggested that it may be a good approach to base leachfield reductions on soil characteristics, but added that since our loading rates are based on soil characteristics, we already account for soil-specific influence in sizing leachfields.

It was emphasized that the leachfield reduction information (specific percent reductions approved for Fusion by other states) is critical information and also consideration of whether it may benefit from being preceded by a septic tank. Someone asked if it will function properly with a septic tank and Noel responded that he recalls that with a septic tank it just takes a little longer to get achieve optimum function. It was noted that the last page of the application depicts a treatment train with an optional septic tank represented and labeled "may be required by local or state regulations".

The tank is small compared to other RIDEM approved treatment technologies and the data indicate that its treatment performance is good: does it breaks down solids better than other systems because of its treatment mechanisms? The owner's manual in the back of the application states that periodic solids removal is necessary for optimal performance and states that an authorized Fusion maintenance provider will oversee this process. Figure 9 in the O&M guidance depicts the pump out procedure for the sedimentation-separation tank and for the anaerobic filter tank.

It was agreed that we need information on percent leachfield reductions approved for Fusion by other states and the specific terms of such approvals: which states require that Fusion be preceded by a septic tank, with and without leachfield reduction? Noel noted that in Japan Fusion is used without a leachfield and wanted to know if there are any countries other than the US that require leachfields.

Deb will inform Wes of the vote to accept the Fusion tank as sound and request the additional information about states approvals allowing reduced leachfield area, specific percent reductions, and requirements for use of septic tanks and other countries that require leachfields.

Technology Program Status Report

Deb reported that instead of the bulky spreadsheet she has been using to report program status, today she has two brief reports: one provides status of technology certifications and the other the status of pending applications. Matt completed an Access database that she had started a few years ago and created the two reports to more efficiently provide program status.

The balance of the technology program update is as follows (as of the start of this meeting).

There are currently:

10 expired certifications;

5 Expired certifications for which renewal has been applied;

1 draft certification being reviewed by the applicant (PercRite)

1 manual under development (ARC Chamber)

1 application under review with supplemental material forthcoming (Fusion)

1 application that needs to be reviewed by TRC (Norweco Green 960-500 & Green TNT)

Next Meeting

The next meeting was scheduled for July 13th at 8:30 AM, pending availability of the QDC Annex.

Adjournment

All business concluded, no other issues were introduced and Russ declared the meeting adjourned.

The meeting adjourned at 11:25 PM.