STATE OF SOUTH CAROLINA

Governor's Nuclear Advisory Council

1200 Senate Street, 408 Wade Hampton Building
Columbia, SC 29201
(803)737-8030

KAREN PATTERSON, CHAIR
CLAUDE C. CROSS
BEN RUSCHE
W. GREG RYBERG, SR.
TOM YOUNG
STEVE BYRNE, SR.
CAROLYN HUDSON
DAVID PETERSON
VINCENT VAN BRUNT

December 8, 2011

Ms. Bridget Clarke
SC DHEC Water
2600 Bull Street
Columbia SC, 29201-1708

Submitted via email on December 9, 2011, to clarkebm@dhec.sc.gov

Dear Ms. Clarke:

Thank you for this opportunity to comment on DOE's Industrial Waste Water Closure Module for F Tank Farm Waste Tanks 18 and 19 to support their removal from service and isolation from the remaining F Tank farm facilities. The SC Governor's Nuclear Advisory Council provided the following comments.

We have reviewed the Closure Module, and more importantly, have followed DOE's process for isolating and cleaning the tanks, and sampling the residual waste in the tanks over the several years that DOE has planned and performed the work. We have also been briefed on the performance assessment for the F Area Tank Farm, and other relevant programs.

We support closing Tanks 18 and 19 by grouting, should DOE determine that closure is appropriate.

We are aware that the NRC's Technical Evaluation Report (TER) recommends that DOE defer closing Tank 18 at this time. As always, the GNAC's first priority is safety, which in the context of the SRS Tank Farms means the reducing risk associated with the liquid waste inventory to the workers, the public, and the environment. Therefore, we feel it appropriate to comment on the TER and its relevance to DHEC's responsibility to review the Closure Module and approve or not approve closure of Tanks 18 and 19. The Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005 (NDAA) assigned NRC a consulting role to the DOE at the waste determination stage of the tank farm closure process. After closure, per the NDAA, the NRC will have a monitoring role. The NRC is not a regulator in this process, and its recommendations are only that. NRC has provided recommendations that might improve DOE's tank closure process, however, the TER provides no convincing arguments to support NRC's conclusion that tank closure should be delayed.

We commend the TER's documentation of the DOE process for determining the radioisotope inventory for each tank and the "uncertainty" in analyzing highly variable liquid waste with precision. Because of the variability which is reflected in the uncertainty, DOE has appropriately used "conservative" – as in extra margin of safety – assumptions in its analysis. NRC rightly points out that if DOE can drive down this uncertainty by more precisely defining the residual radioisotope inventory in each tank, then DOE can apply less conservative model assumptions. However, the GNAC does not consider reducing uncertainty as a prerequisite to tank closure.

NRC agrees that DOE's approach and process for cleaning the tanks are good, and that inventory estimates are biased high. That is to say, NRC agrees that DOE has been conservative.

However, the NRC is concerned that the conservatively modeled potential future dose from the residual radionuclides in Tank 18 may make it difficult to close F Tank Farm and meet the performance assessment criteria. NRC offers three recommendations to decrease the uncertainty : first, perform additional analysis of the residual radioisotope inventory; second, do more analysis of fate and transport of the radioisotopes, including mobility of plutonium; and third, wait for more efficient waste removal technologies that may be developed in the future. We believe these recommendations by NRC are based on extraordinarily conservative modeling assumptions, and a certain level of discomfort with using modeling to conclude a tank is ready to be closed.

While the GNAC has no issue with additional studies regarding waste migration, grout integrity and so forth, we believe that DOE must consider the cost-benefit of additional studies to determine which, if any, are most likely to provide the greatest benefits to the closure process. We also believe that any studies can be done in parallel with tank closure without jeopardizing final area closure, and that the results would be most useful to the area closure process.

NRC recommends that DOE continue with technology exchanges to see if a better waste removal technology is developed in the future. We applaud DOE's routine practice of learning from and improving on existing technologies. Improved technologies are a constant in our technological world, and so the conundrum will always exist – the possibility of improved technology in the future, and the need to take action now. We agree DOE's practice of technology exchange may lead to future waste removal technologies that can remove even greater amounts of the residual waste. However, we do NOT agree that the possibility of better technologies in the future is a valid reason to defer closure of Tank 18.

Finally, the NDAA requires that the residual waste be disposed of in compliance with 10 CFR Part 61, Subpart C, which requires that final area closure meets the performance objectives that ensure protection of the public, the inadvertent intruder, and individuals during operations. NDAA has charged NRC with making a determination that there is "reasonable assurance" that DOE's plan for tank and area closures will meet this requirement. NRC chose not to make a determination of reasonable assurance in this TER because of the uncertainty of the inventory in the remaining tanks. Using this logic, it would seem that NRC will not be able to make a conclusion regarding reasonable assurance until many more tanks are cleaned and the residual waste inventoried, and thus, this inability to make a reasonable assurance conclusion is not reason to delay closing tanks when NRC agrees that the tank cleaning and closure process is a good one.

It is the opinion of the GNAC that NRC's reasons for delaying the closure of Tank 18 do not trump the need to reduce the immediate risk posed by the tank farm. We do not believe the benefits of possible future waste removal technologies is sufficient to justify delaying Tank 18's closure. Additional research and more refined models may do nothing to increase the reasonable assurance that 10 CFR 61 Subpart C performance criteria will be met because of the uncertainty of projections thousands of years into the future. In our opinion, the NRC staff has not provided any evidence that the performance criteria will NOT be met.

The GNAC commends both DOE and NRC on the work that has gone into this consultation process. The NRC has identified for DOE's consideration ways DOE may be able to improve future iterations of the performance assessment, and topics that may benefit from additional evaluation. The consultation process should reassure the public that the tank closure process as developed by DOE and reviewed by NRC, EPA, and DHEC will protect workers, the public and the environment, and reduce the risk to South Carolina.

The GNAC supports a DOE decision to proceed with the closure of both Tanks 18 and 19.

Sincerely,

Karen Patterson, Chair
South Carolina Governor's Nuclear Advisory Council

cc: Gov. Nikki Haley
Mr. Dave Huizenga, Acting Asst. Secretary for Environmental Management
Dr. Dave Moody, Manager, DOE SR Operations Office
Members of SC GNAC