October 2011 Repository Footprint and Experiment Room Dimensions (DIM)	
EPA Request #	**Topical Issue Needing Further Analysis or Information**
SDI(DIM)- 1	DOE needs to conduct a FEP analysis of a borehole (BH) intersecting the experimental area and its potential affect on releases
	Background: The experimental area footprint will be enlarged by > 68%, and the Delaware Basin drilling rate has increased relative to previous analyses. An analysis to address how changes in the experimental area footprint would be affected by an intersecting BH, and if intersected, the results of this larger network of being flooded. The analysis needs to include the probability and consequence of an E1 and E1E2 scenario where a brine pocket is not hit and where a brine pocket is hit and floods the newly and existing experimental rooms.
SD(DIM) -2	FEPS DR3 and DR7 need to be re-evaluated to reflect the change in experimental room dimensions and an updated gas generation model. The results of the SDI experimental room volumes adopted in PA should be reflected in this updated FEP analysis.
	Background: In the 1995-96 FEP DR3- and DR7 screening exercise the dynamic change in experimental room porosities and permeabilities were evaluated using BRAGFLO in combination with the SANTOS generated porosity surfaces. The outcome of the analysis was to conservatively 'fix' the experimental rooms to relative small porosities (volume) on the basis that this would increase repository pressures, thus is conservative. DOE needs to update and rerun FEPs DR3 and DR7, in a similar in fashion as that performed in the 1995-96 analysis (i.e., a dynamically changing experimental room volume, and porosity-permeabilities) to reflect existing and proposed SDI experimental room dimensions (which substantially increases the experimental area footprint), current gas generation rates due to microbial degradation, and the decrease in threshold pressures used to fracture the anhydrite interbeds. From this analysis it should be determined what experimental room porosities and permeabilities are reflective of the existing and proposed SDI experimental rooms in upcoming PAs.