

SALTSTONE DISPOSAL FACILITY PERFORMANCE ASSESSMENT PROGRAM - IMPACTS OF SDU 6



Presentation to SRS Citizens Advisory Board

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We do the right thing.

- A Performance Assessment (PA) is a key risk assessment tool used to inform disposal and closure decisions
 - Required by DOE Manual 435.1-1 for low-level waste disposal facilities
 - Models fate and transport of constituents disposed in facility over long periods of time to determine potential future interactions with the environment and public
 - Utilizes informed inputs and assumptions
 - Modeling period begins at disposal facility closure

We do the right thing.

- PA describes calculation of most defensible dose consequences or chemical concentrations over time
- Focus on determining peak dose or chemical concentration - worst one-year period
- Reflects potential variation in parameters and identifies key parameters for which the model has the greatest sensitivity (importance)

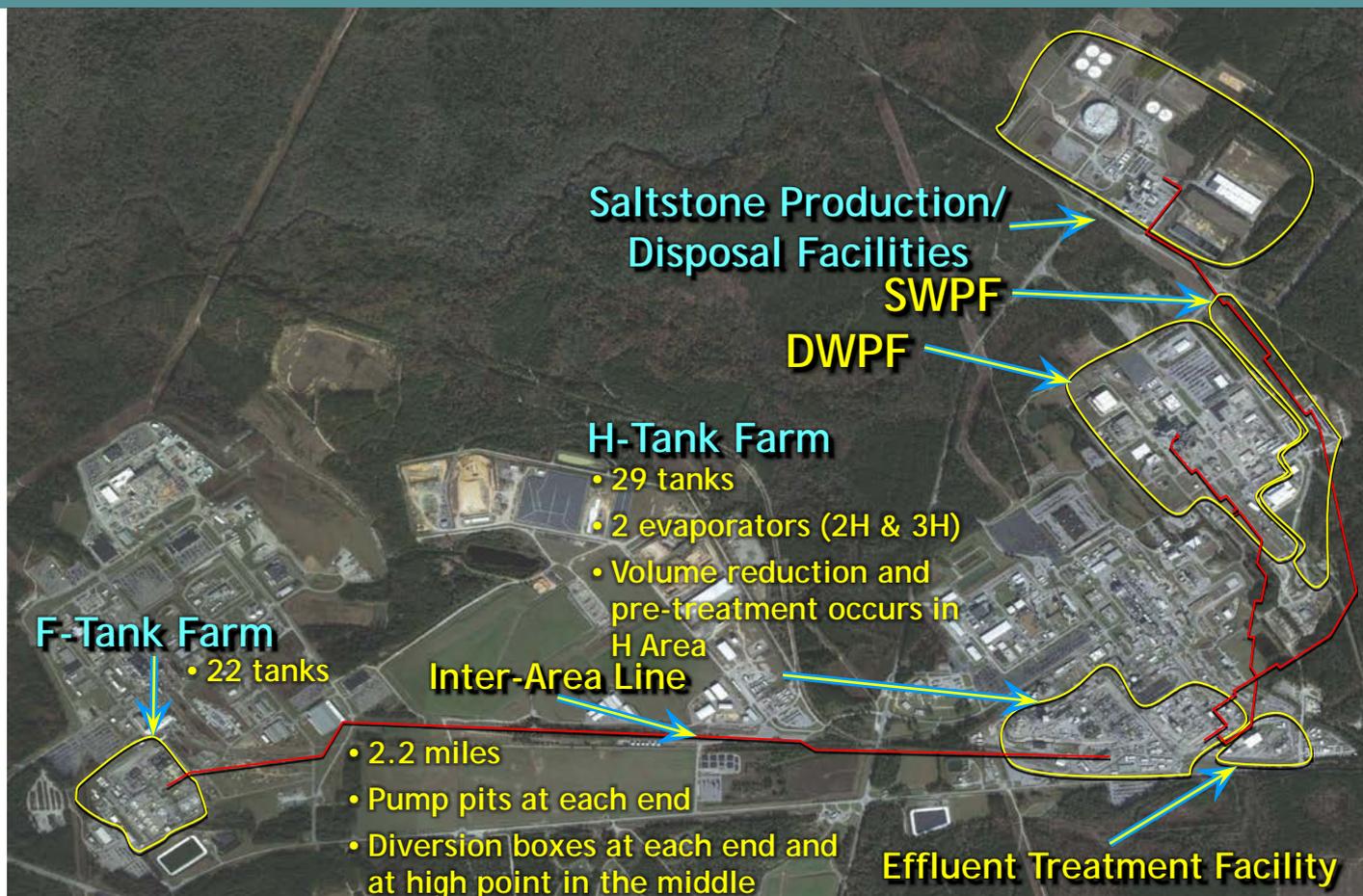
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SRR maintains active
PAs for:

F-Tank Farm

H-Tank Farm

Saltstone Disposal
Facility (SDF)



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- Both DOE and NRC regulations provide performance objectives (POs) for the future Member of the Public (MOP) of 25 mrem/yr (not including radon and progeny in air) and future hypothetical inadvertent human intruder (IHI) of 500 mrem/yr
- Calculate contaminant concentrations at points 1-meter and 100-meters from closed disposal facility
- 100-meter data used to evaluate against MOP PO
- 1-meter data used to evaluation against IHI PO

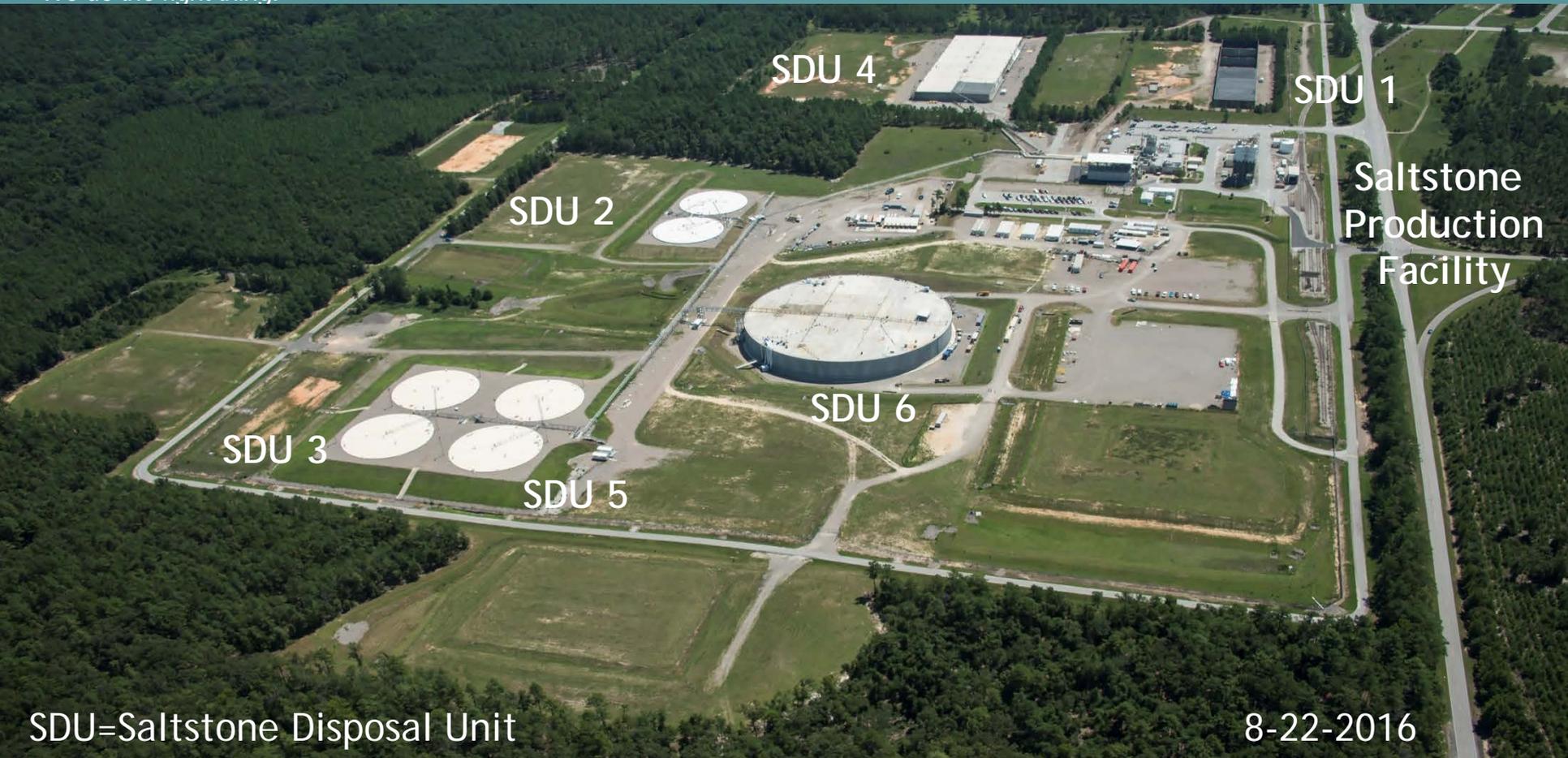
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- Unreviewed Waste Management Question (UWMQ) Program is in place to meet the requirements of DOE Manual 435.1-1 regarding PA change control
- Structured process for evaluating facility changes and new data
- Ensures that new data, information and proposed activities are reviewed against existing baseline
- A UWMQ Evaluation may lead to Special Analysis (SA) which is a more detailed evaluation

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- Current PA was developed by SRR and reviewed by DOE-SR, DOE-HQ (LFRG), SCDHEC, EPA, NRC and the public and was issued in 2009
- Since 2009 SRR has developed two SAs (in FY2013 and FY2014) to evaluate changes in the anticipated closure conditions versus those in the PA
- SAs have been reviewed as part of normal DOE oversight and NRC NDAA § 3116 monitoring

We do the right thing.

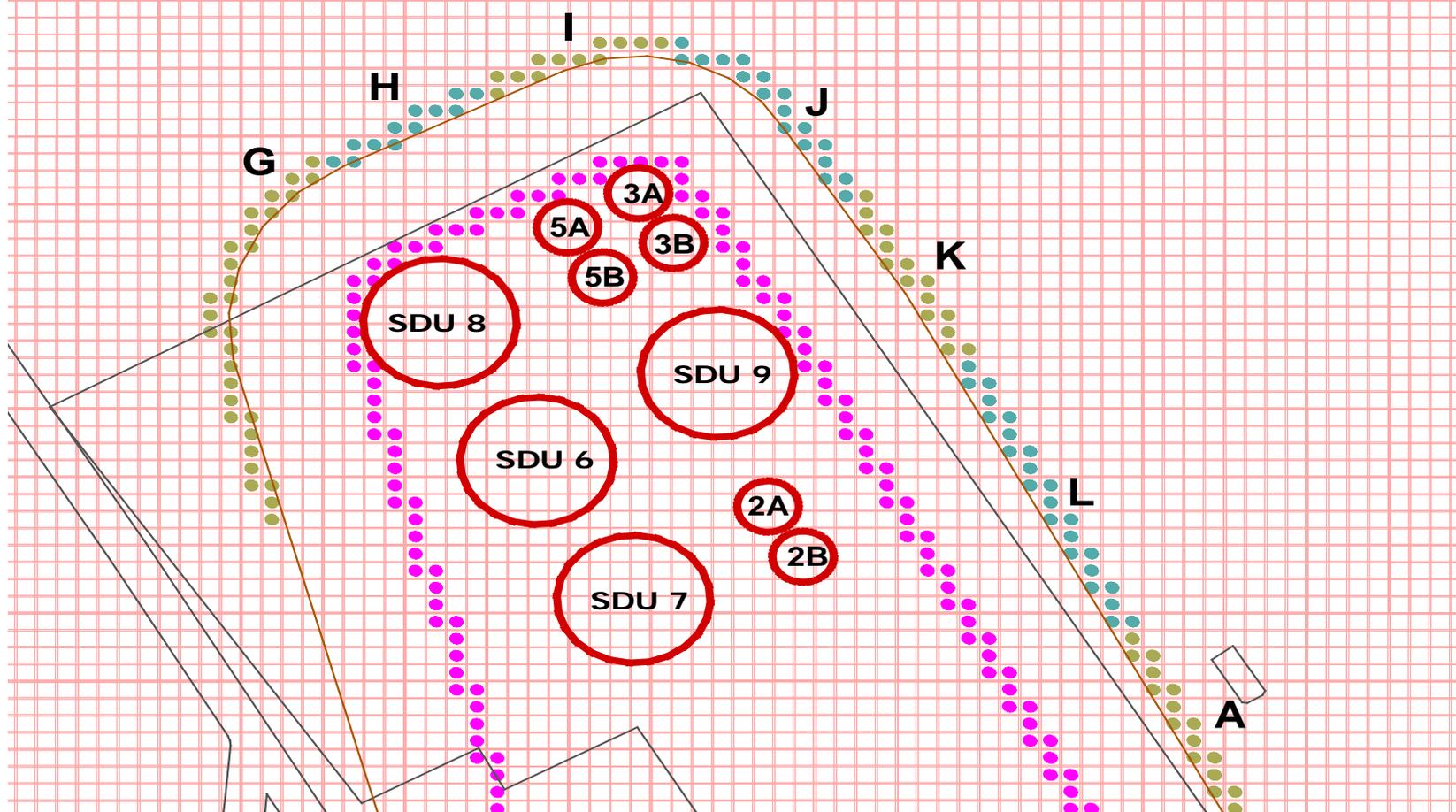


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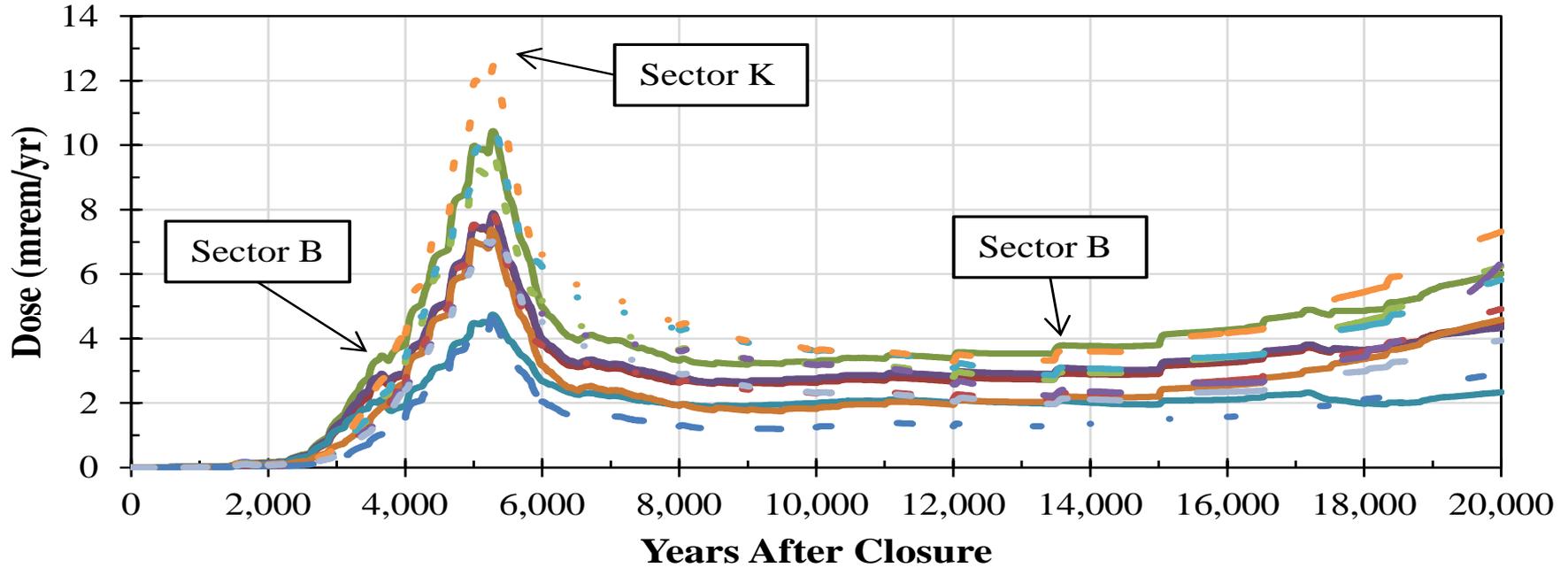


- Pink dots represent 1-meter facility boundary in modeling
- Other dots represent 100-meter facility boundary in modeling
- 100-meter boundary is divided into sectors to evaluate large amount of modeling results
- Letters represent various 100-meter boundary sectors

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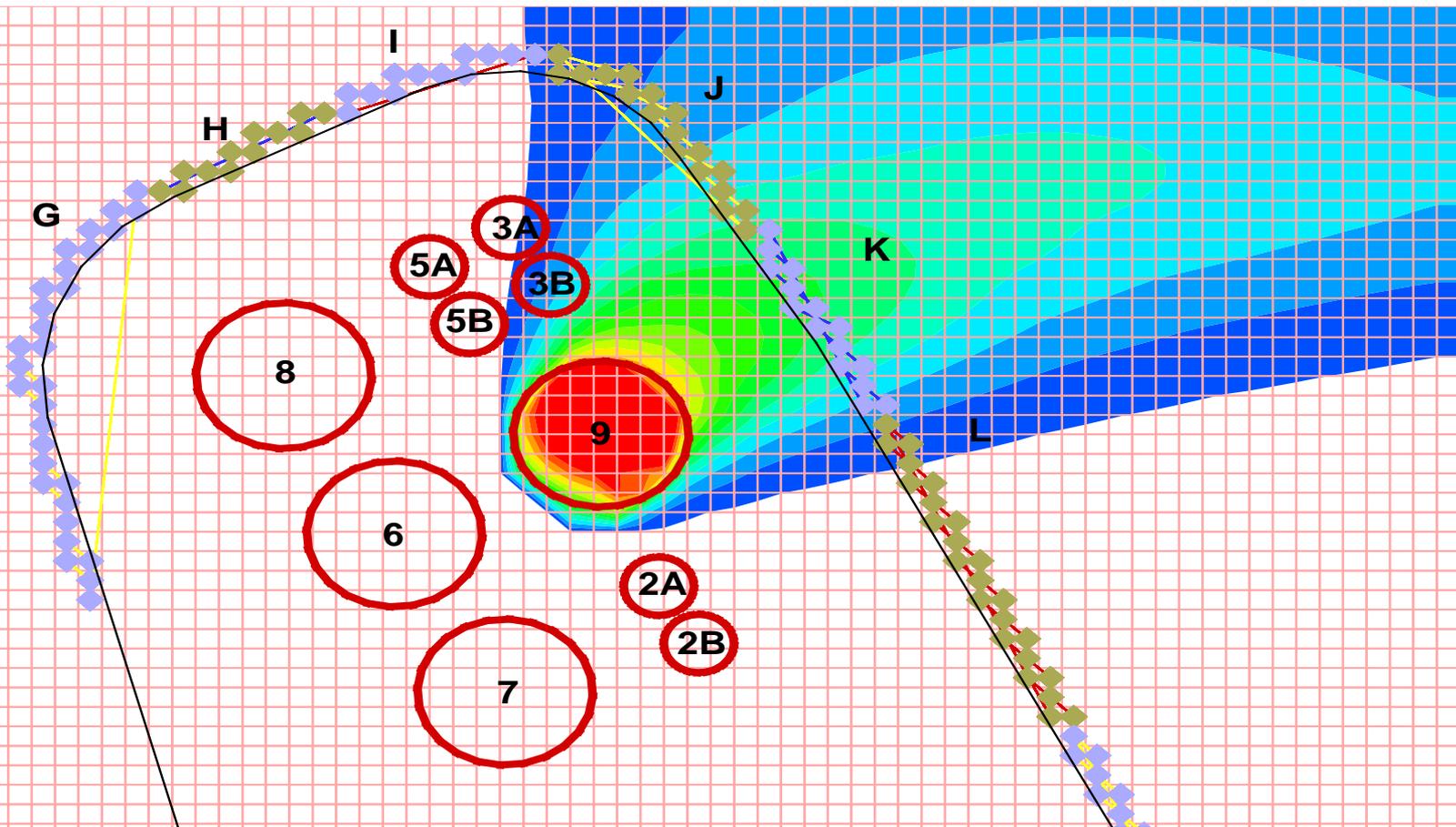


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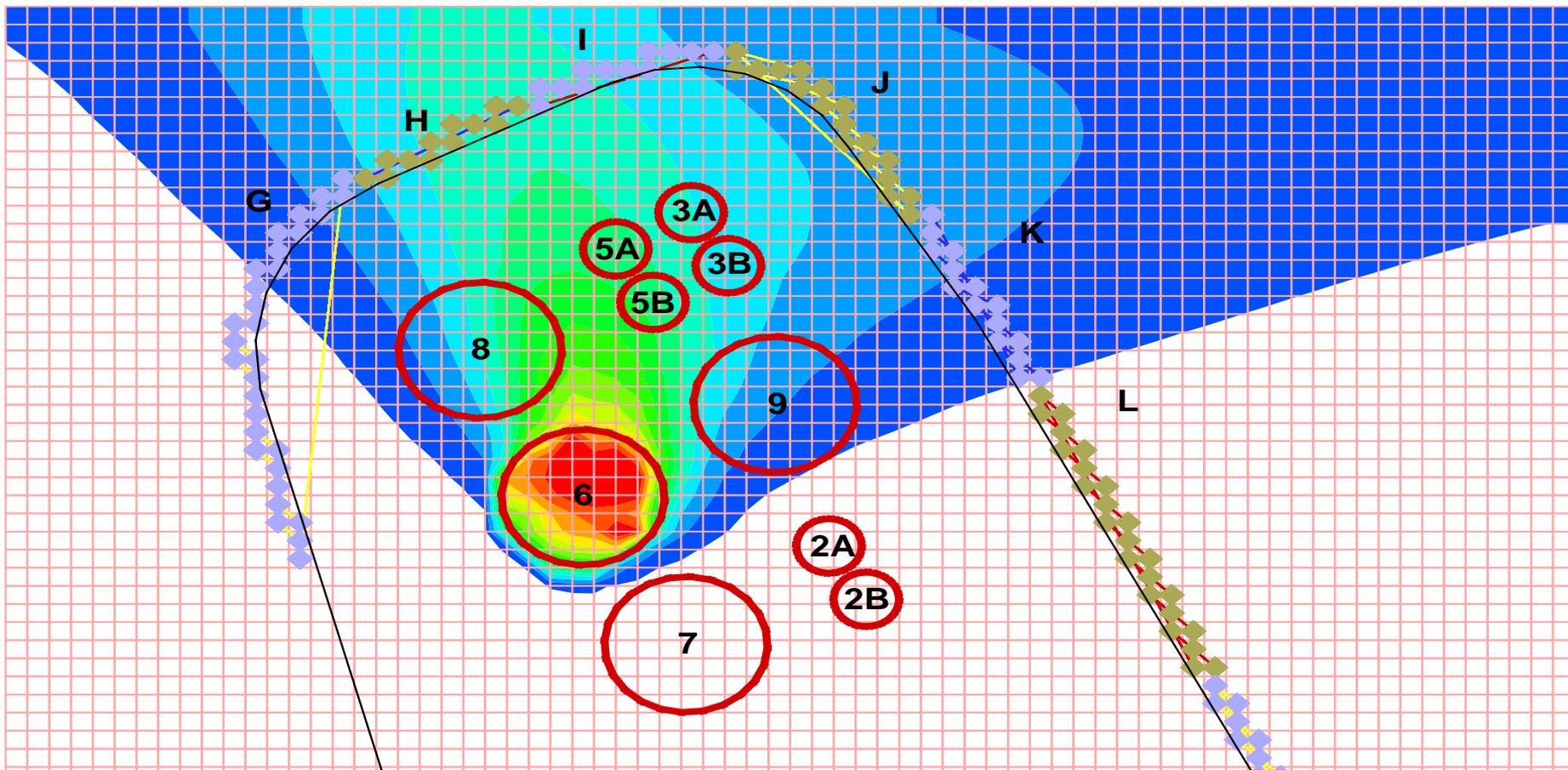
- Sector A
- Sector B
- Sector C
- Sector D
- Sector E
- Sector F
- Sector G
- Sector H
- Sector I
- Sector J
- Sector K
- Sector L

We do the right thing.



Predicted SDU 6 Groundwater Flow

We do the right thing.



We do the right thing.

- Condition of SDU 6 floor and roof differs from data used in the FY2014 SA
- Measures in progress to ensure leak tightness during operations are ignored in modeling
- Modeling assumes that the SDU 6 floor and roof are fully degraded leading to a bounding model compared to actual conditions
- Sector I peak dose increases approximately 10% (to 7 mrem/yr); however, no change to predicted overall facility peak dose in Sector K (12.6 mrem/yr)

We do the right thing.

- Current as-built condition of SDU 6 floor and roof does not impact the closed facility calculated peak dose, the ability to meet performance objectives, or the conclusions of closure documents
- Newly collected data and information is continually being evaluated against the predictive modeling for potential impacts
- The entire process is monitored and reviewed by DOE per DOE Order 435.1 and by NRC per NDAA § 3116