



*We do the right thing.*

# SRS Tank Closure Regulatory Developments

## Applying the Lessons Learned to Date

**November 17, 2010**

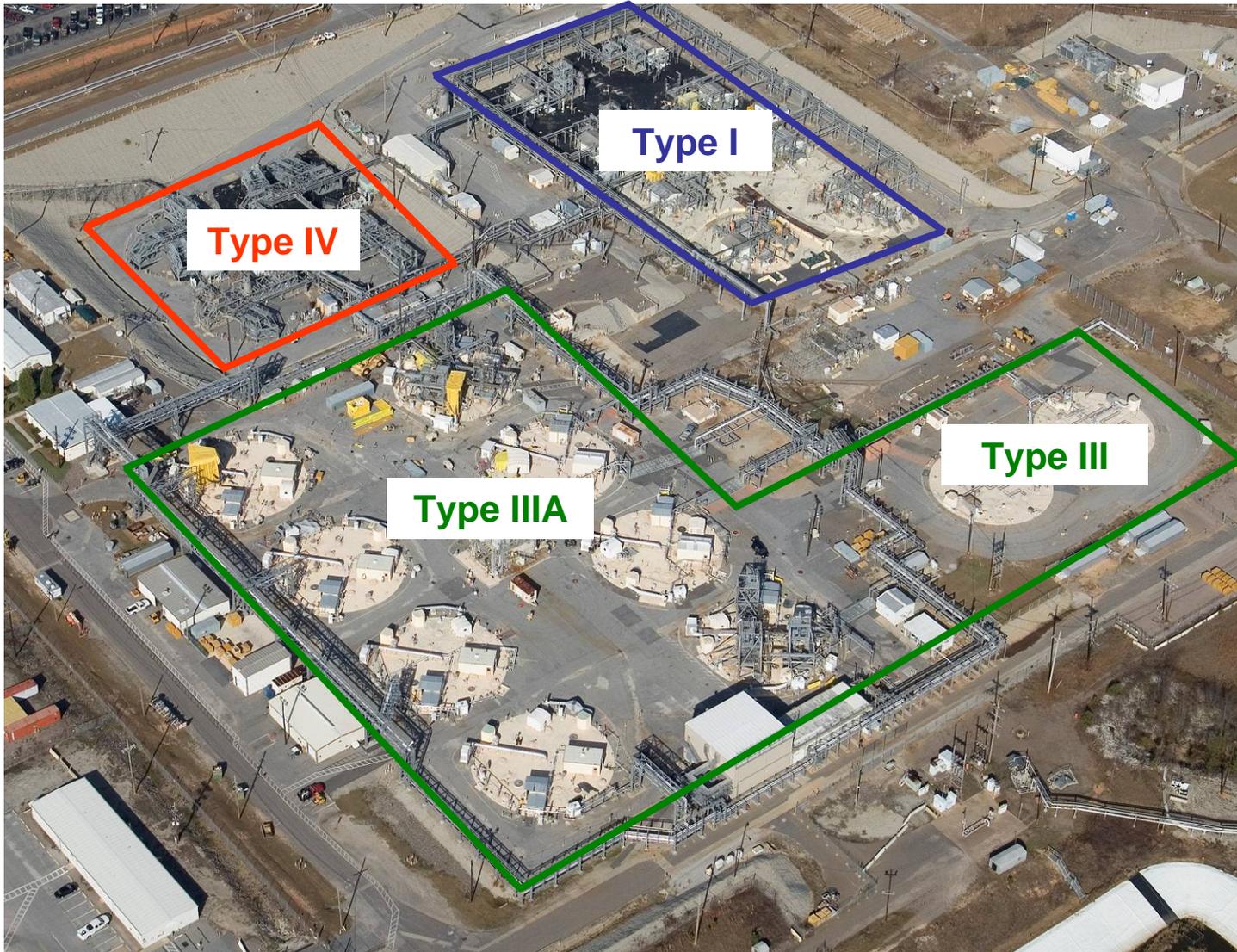
**Ginger Dickert**

Manager, Closure & Waste Disposal Authority

Atlanta Technology Exchange

SRR-CWDA-2010-00163

# F-Tank Farm



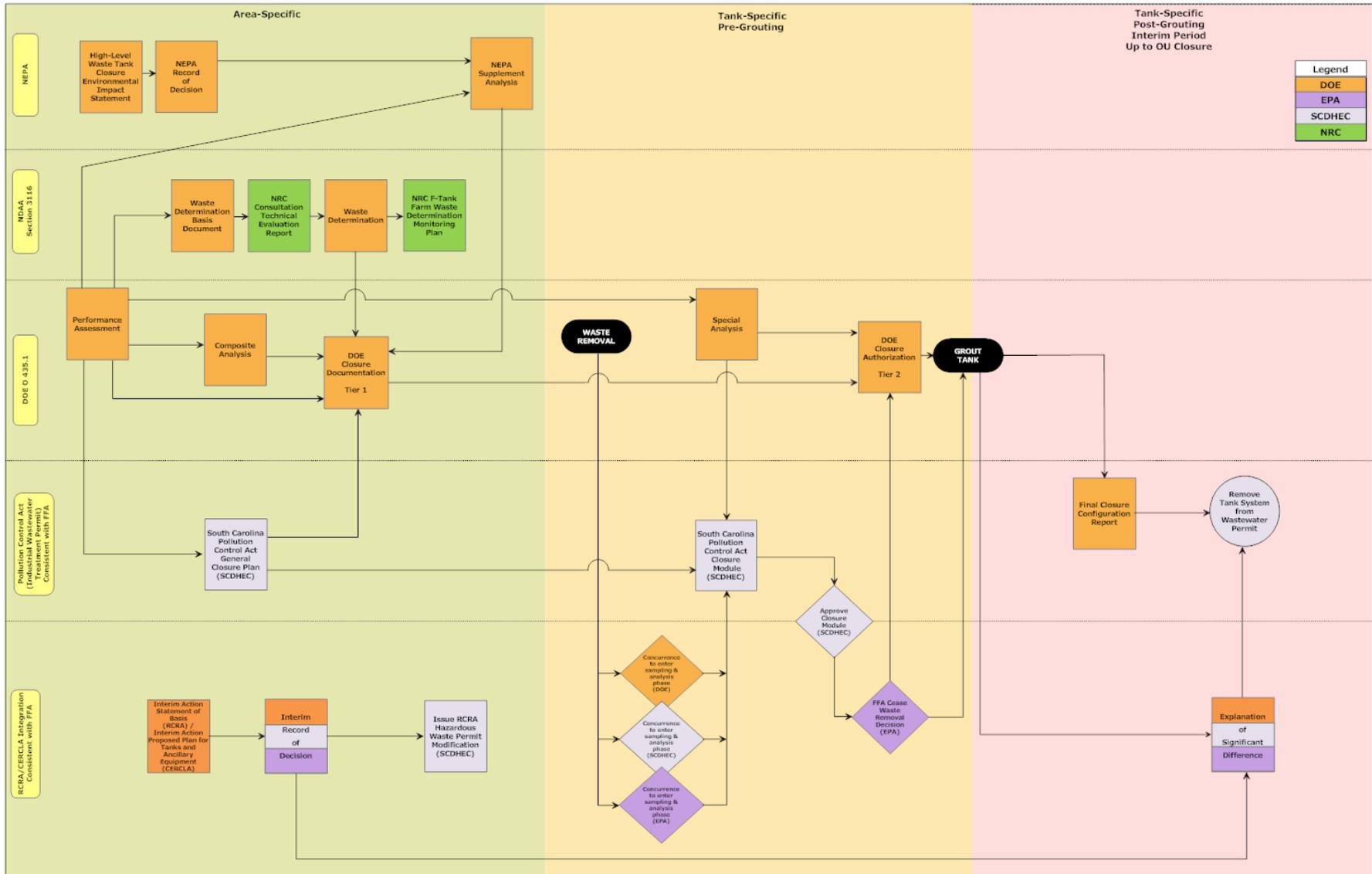
- Tanks 18 and 19
  - Waste removal is complete
  - Physical isolation is in progress
- Tanks 5 and 6
  - Waste removal is complete
  - Preparing for residual characterization
  - Isolation design is in progress
- All we need now are a few approvals to add grout



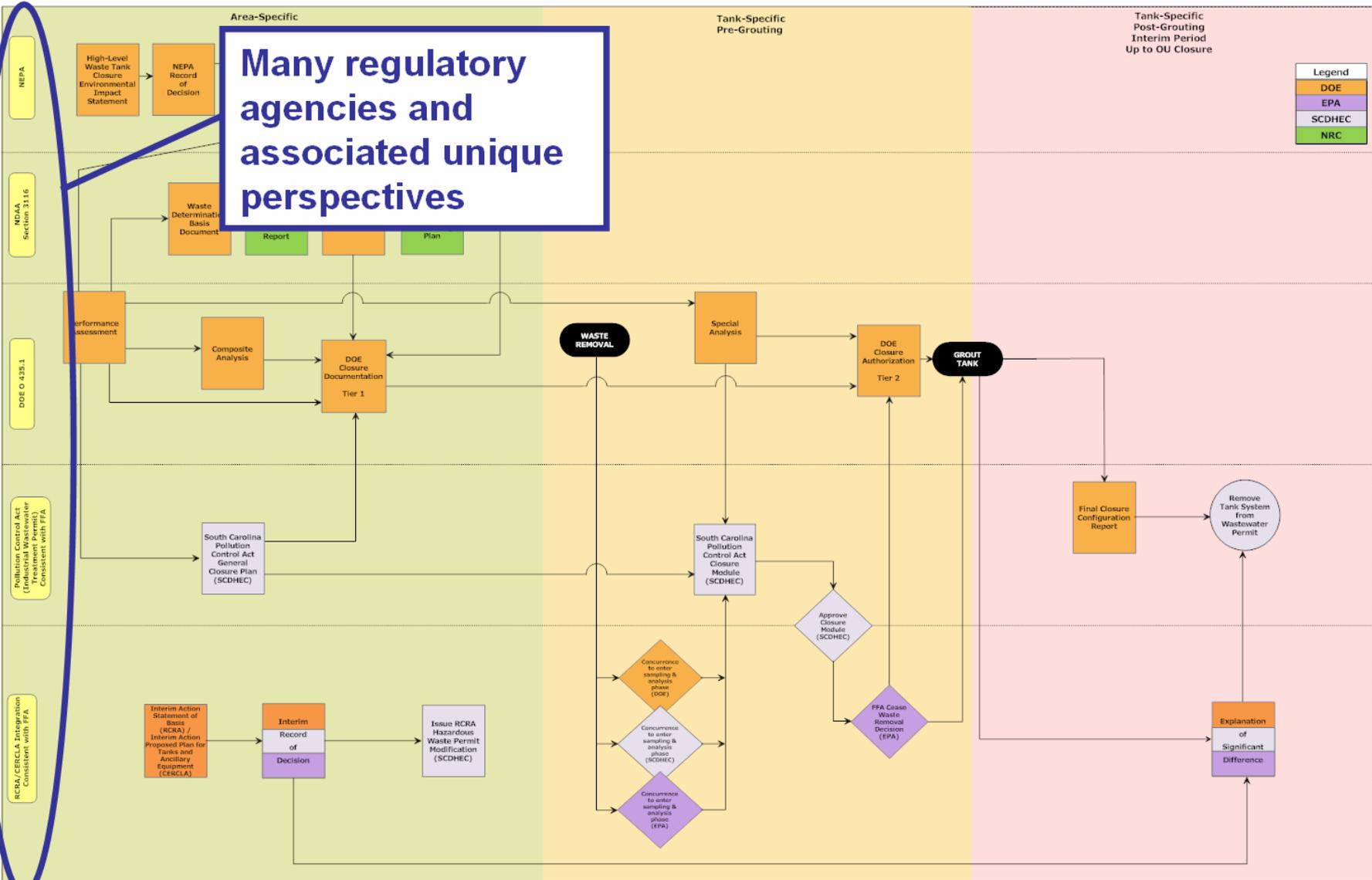
Tank 5 Interior

**How hard can it be?**

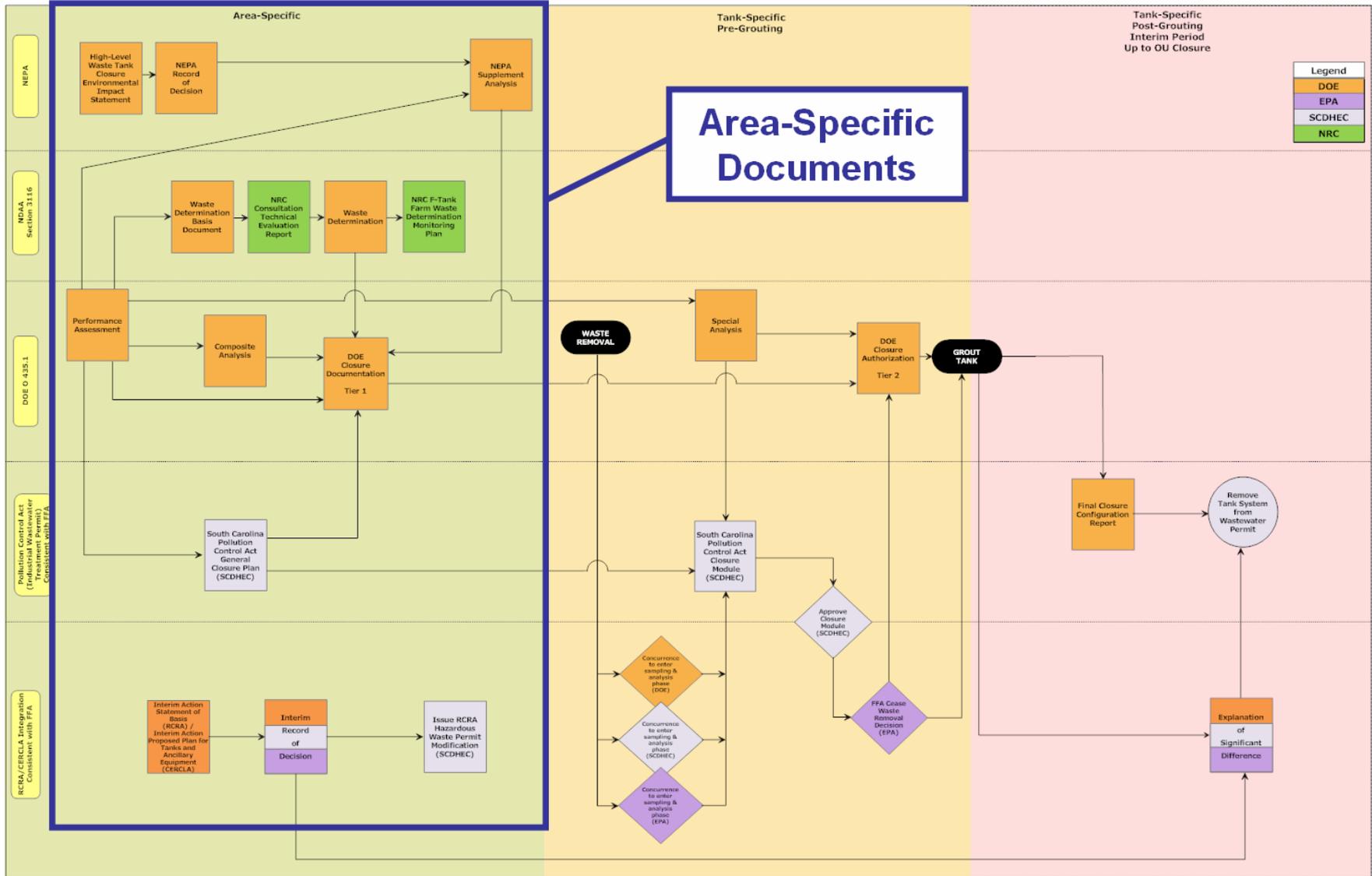
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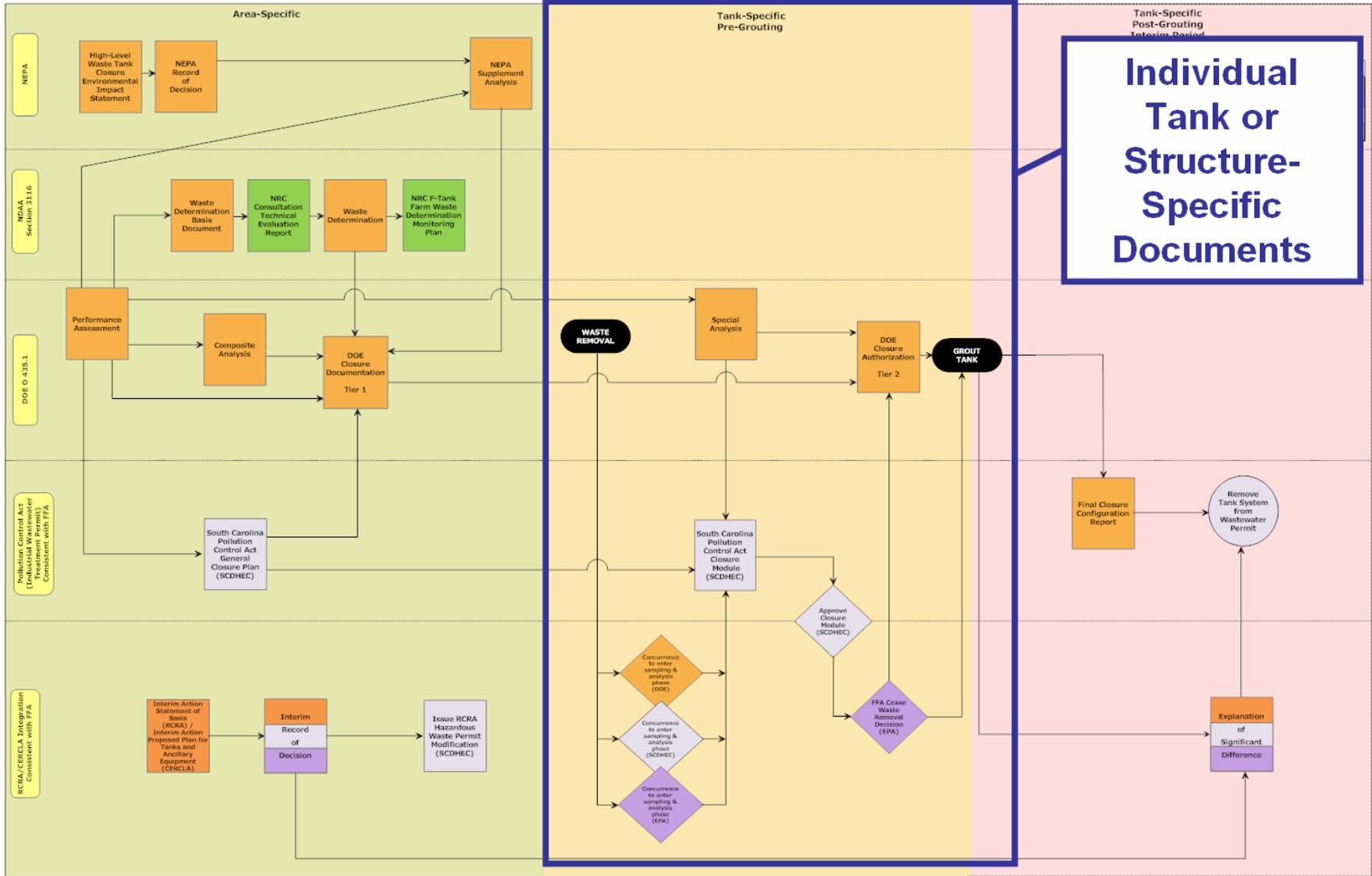
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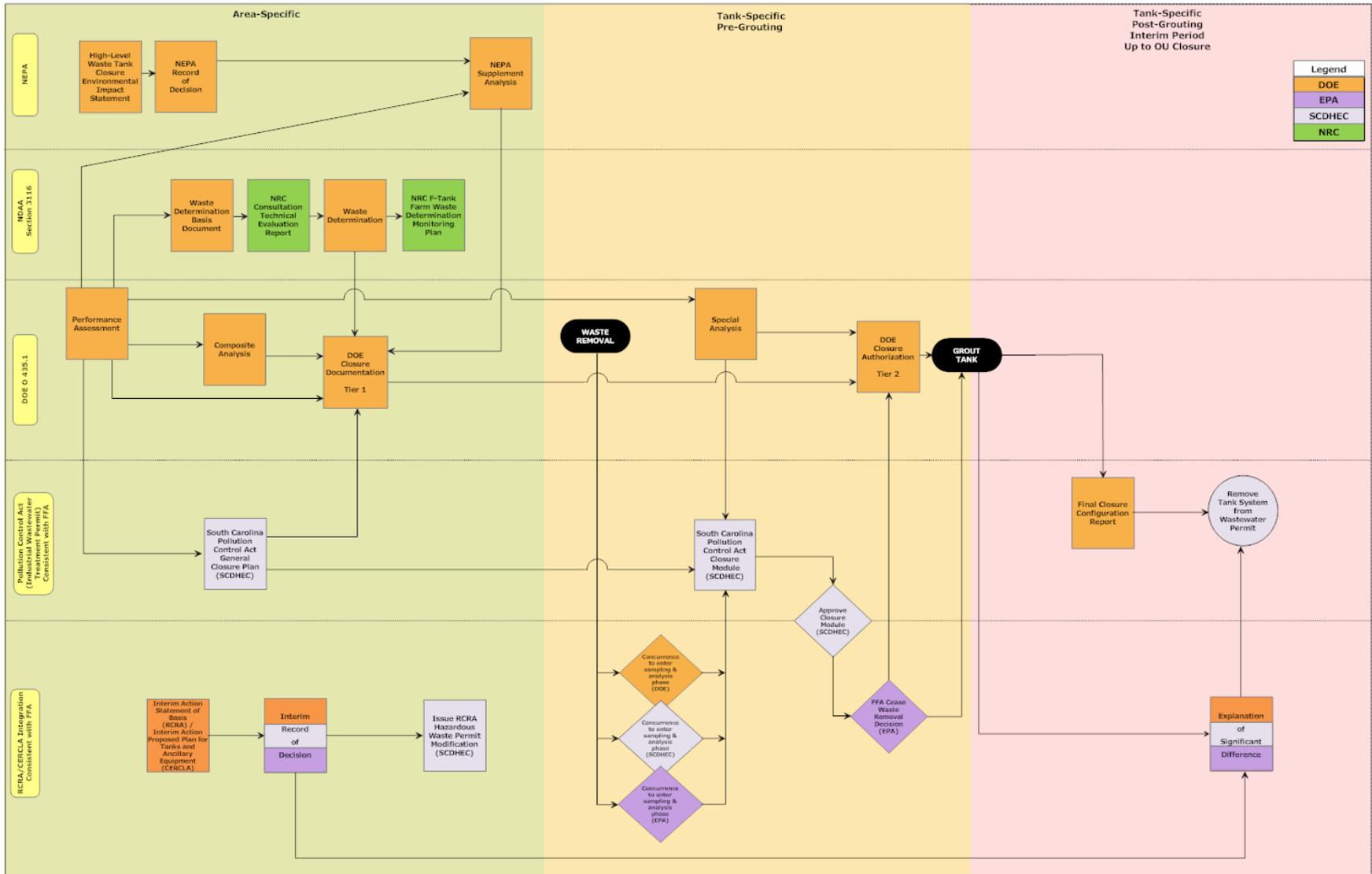
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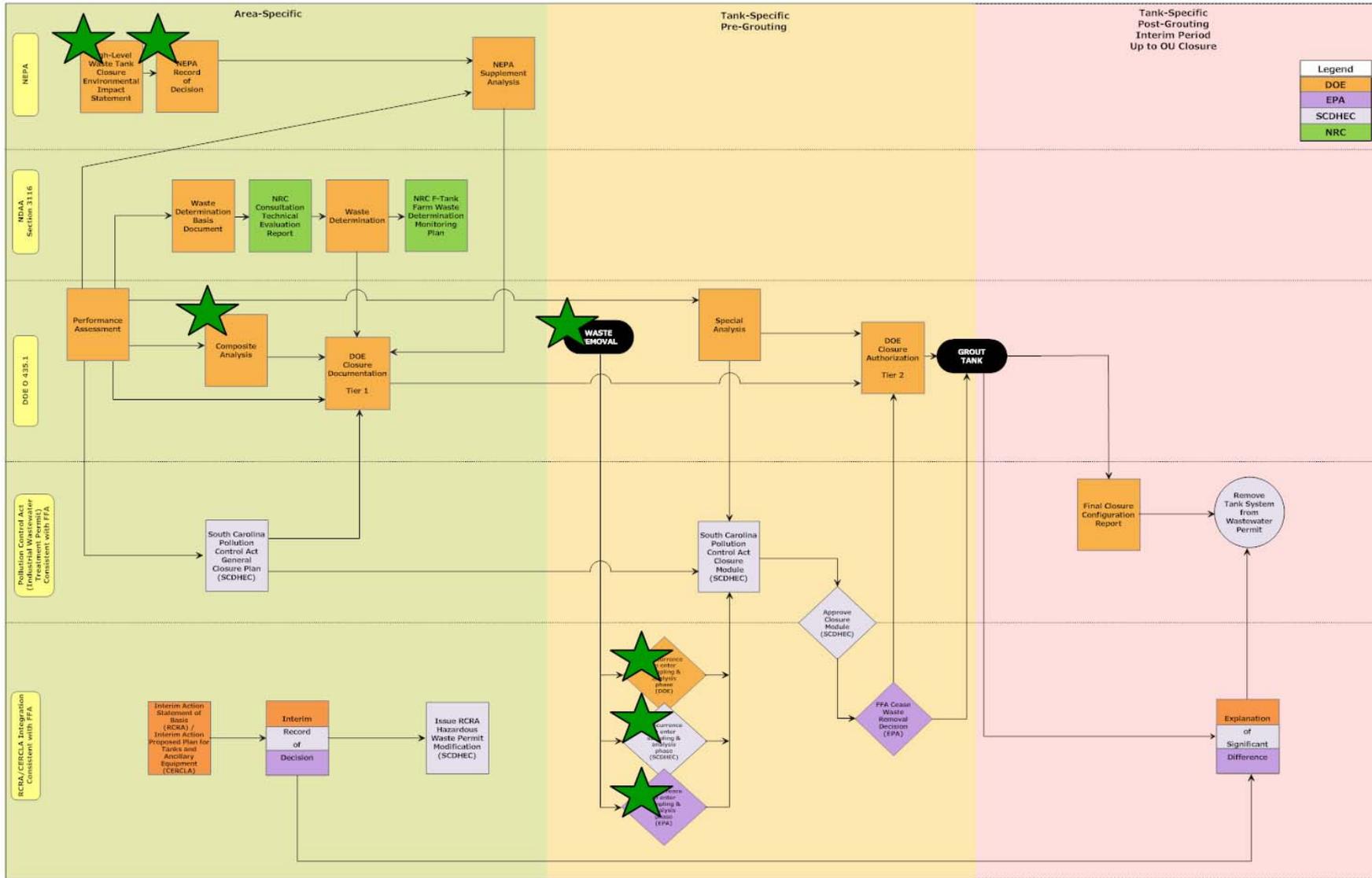
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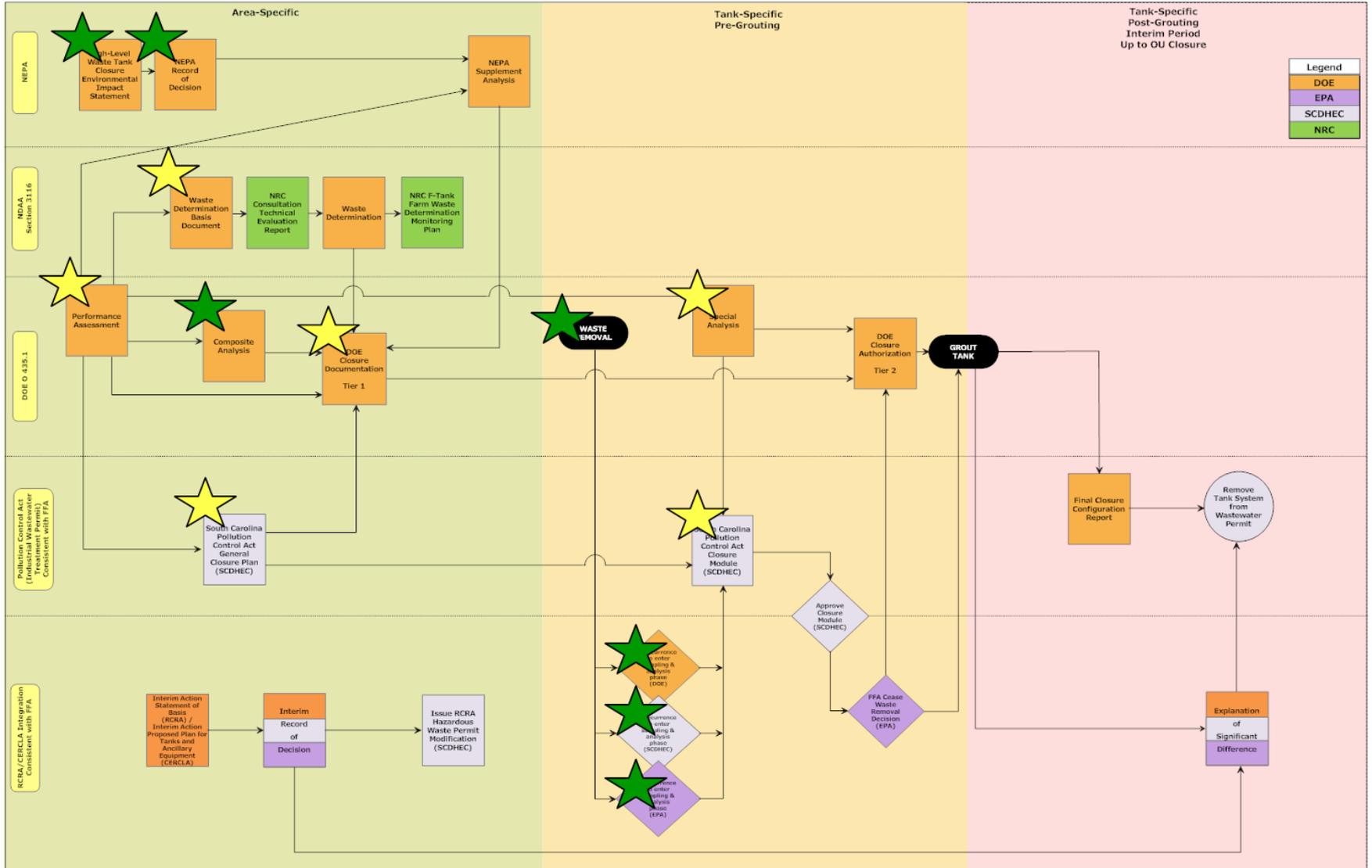
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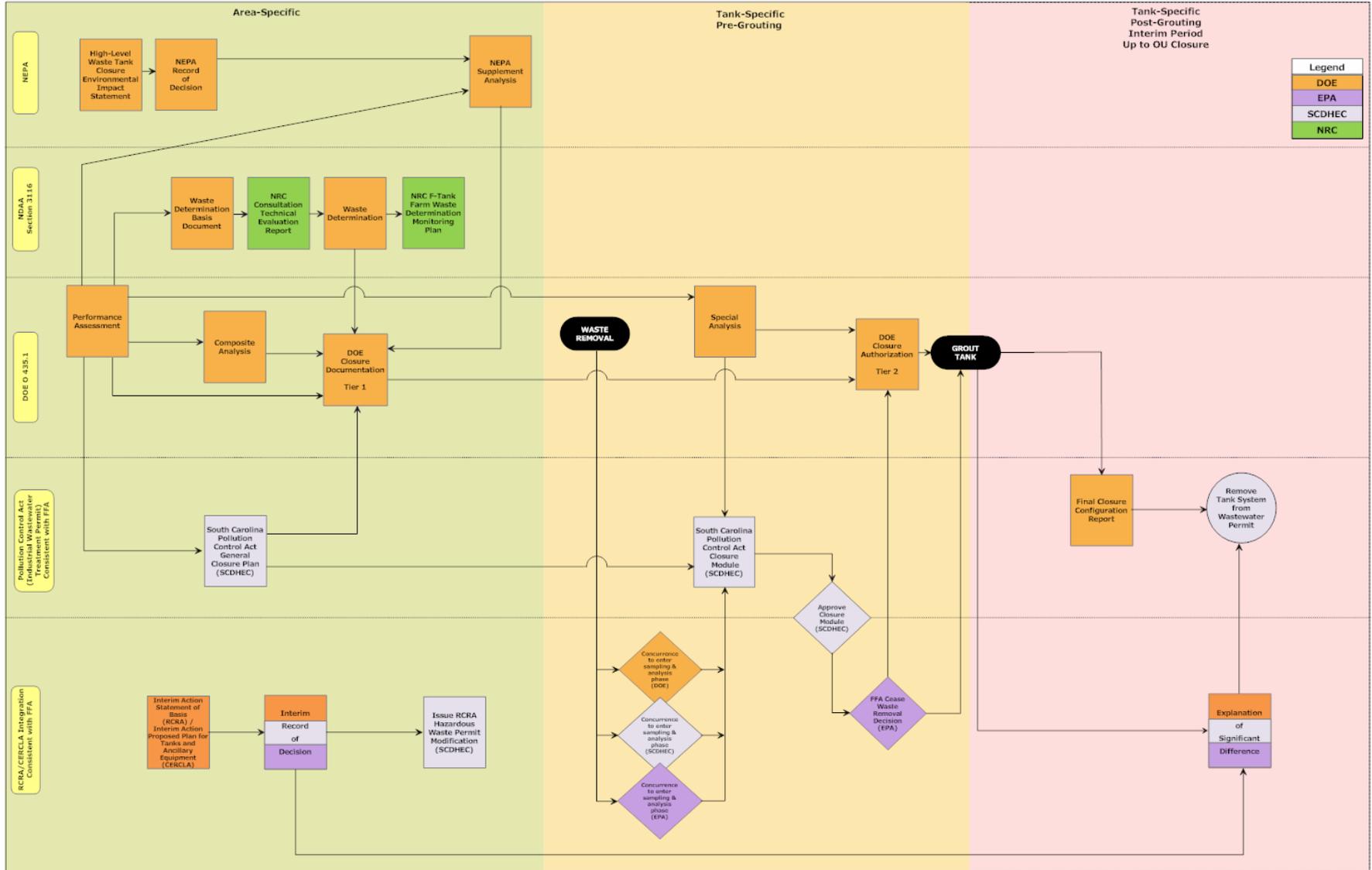
# Regulatory Documentation Path



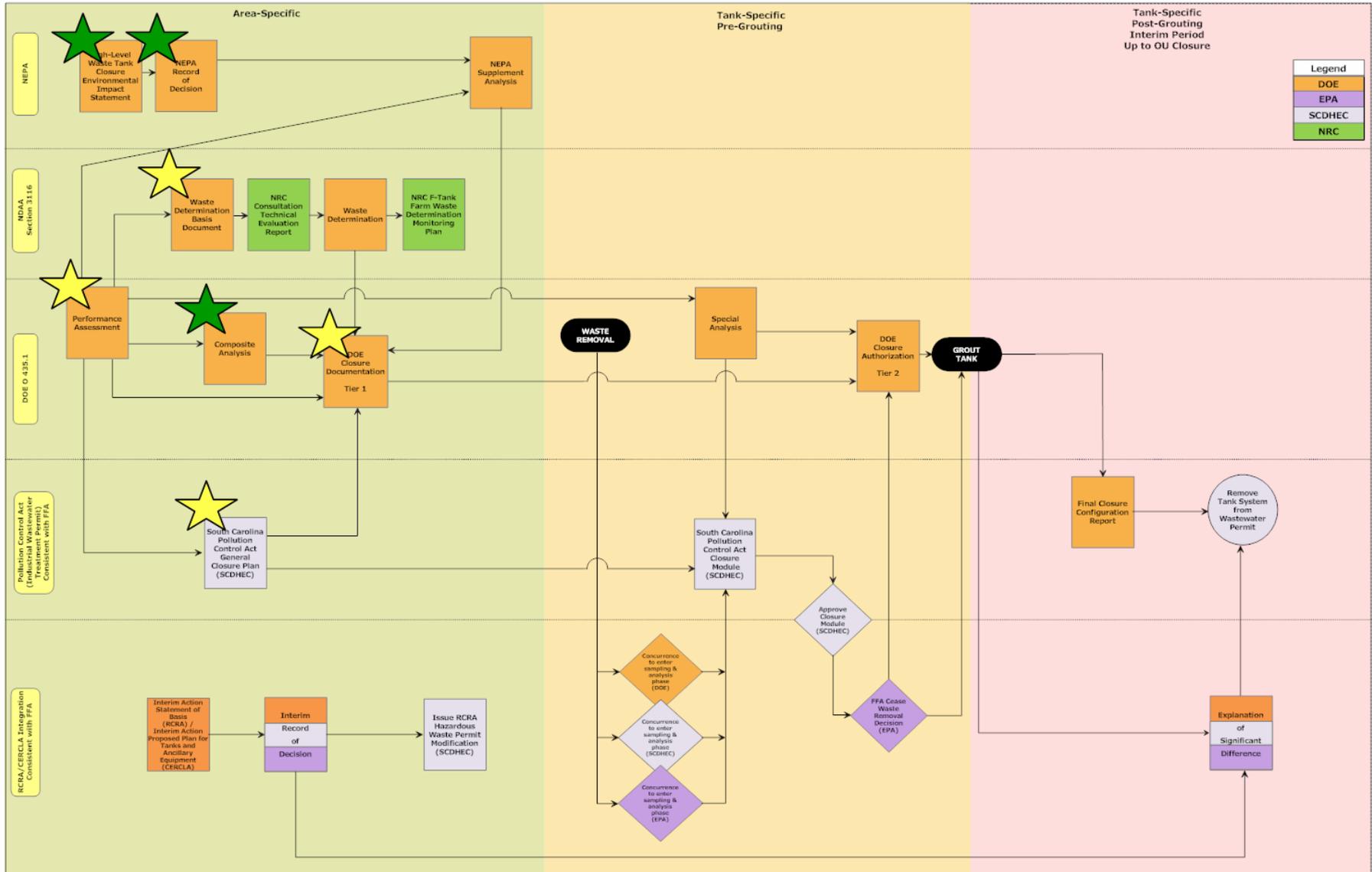
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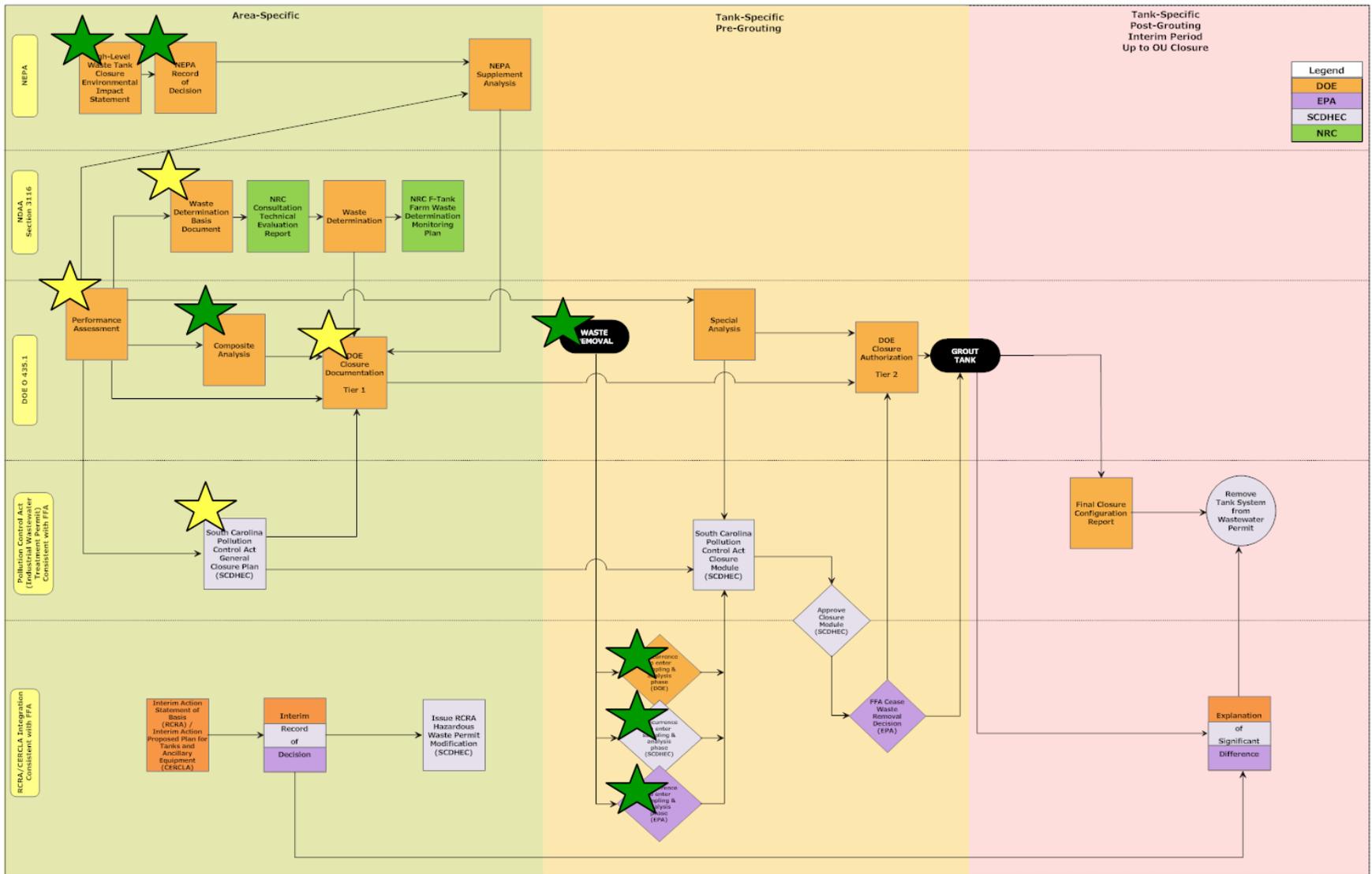
# Regulatory Documentation Path



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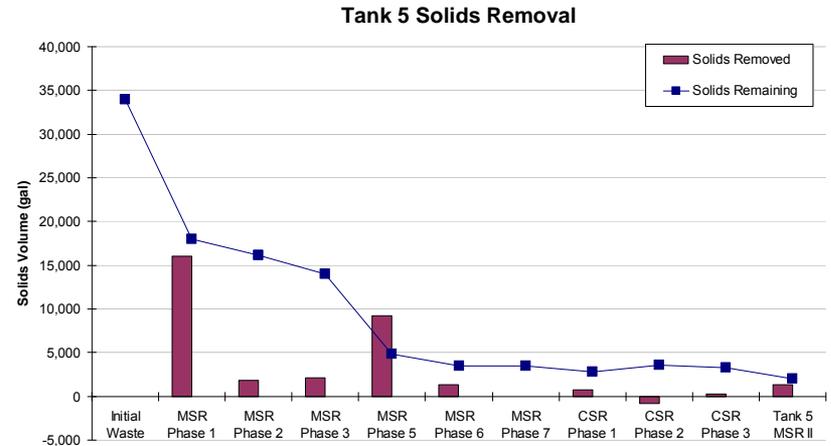


# Where Do We Stand?

- F-Tank Farm Section 3116, Area-wide DOE Order 435.1 and State-required documents are prepared and in review
- Tank-specific documents for Tanks 18, 19, 5 and 6 are in development and review

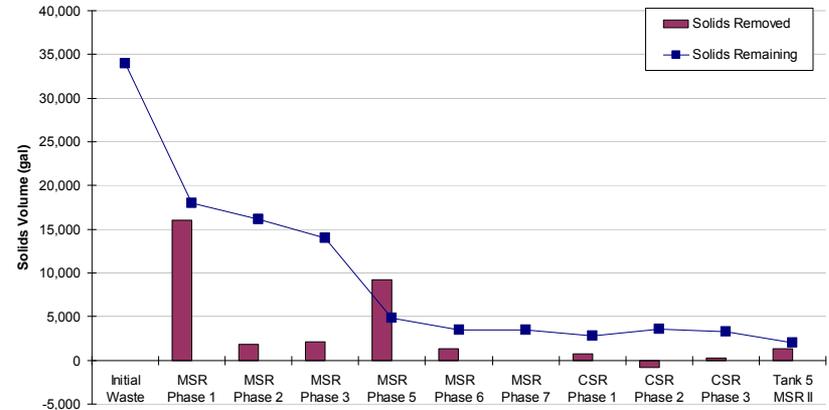
**Experience in waste removal activities and in the development of the regulatory documents based on those field activities has led to lessons learned!**

- Arguments require collection of key data **“early and often”**
- Must be able to clearly demonstrate **diminished effectiveness** of removal technology
- Need carefully **documented** basis of **all decisions** made along the way

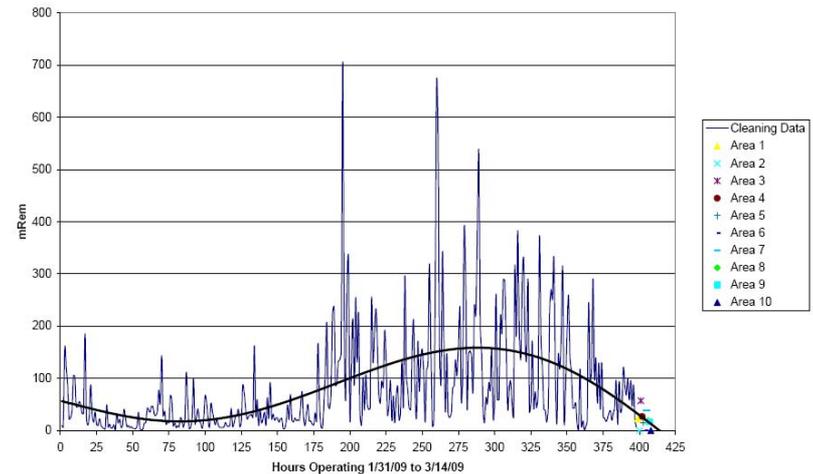


- Arguments require collection of **the right** key data along the way
- Must be able to clearly demonstrate diminished effectiveness of removal technology
- Need documented basis of decisions made along the way

Tank 5 Solids Removal

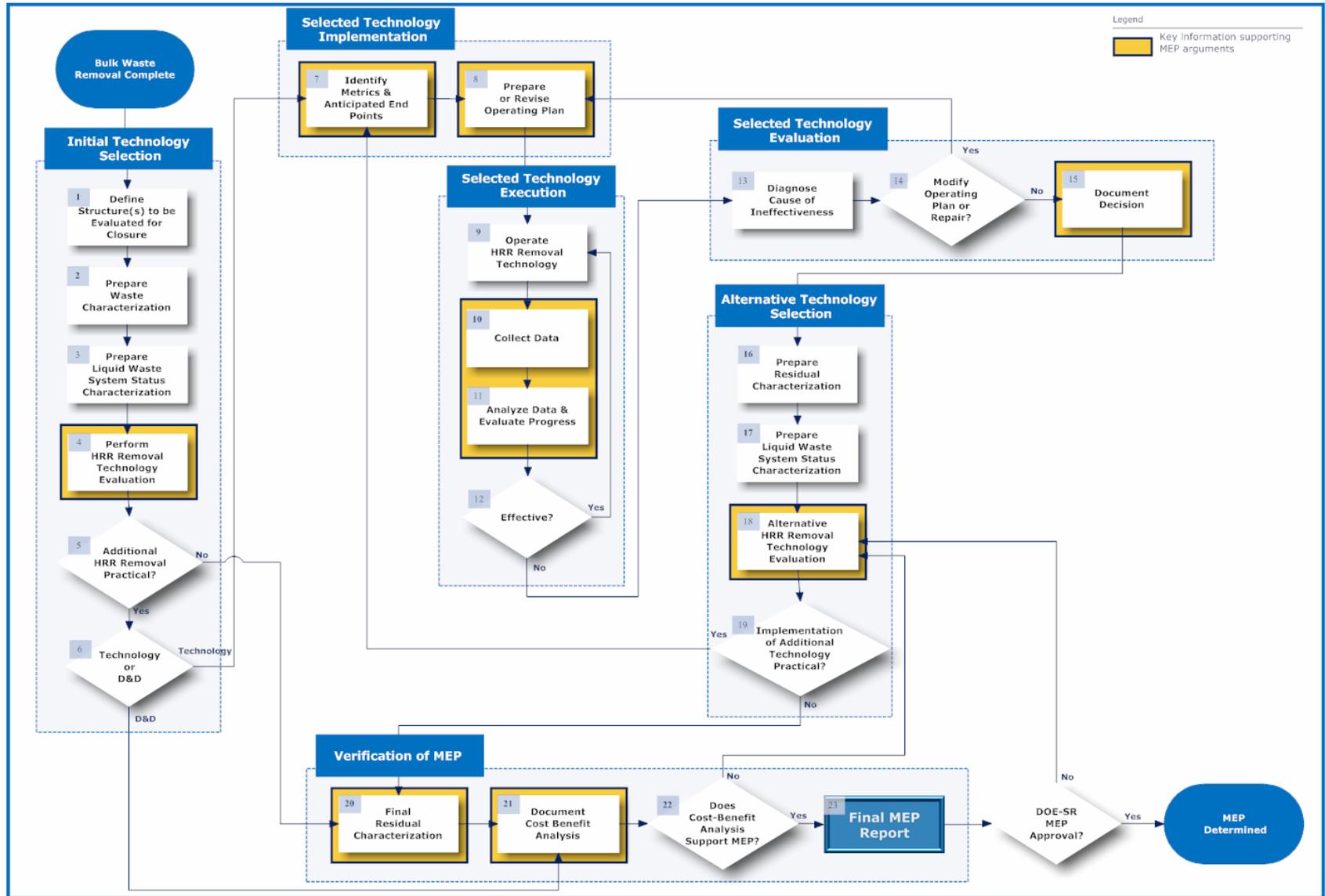


Total mRem Per Hour Detected in Transfer Line During Tank 18 Cleaning

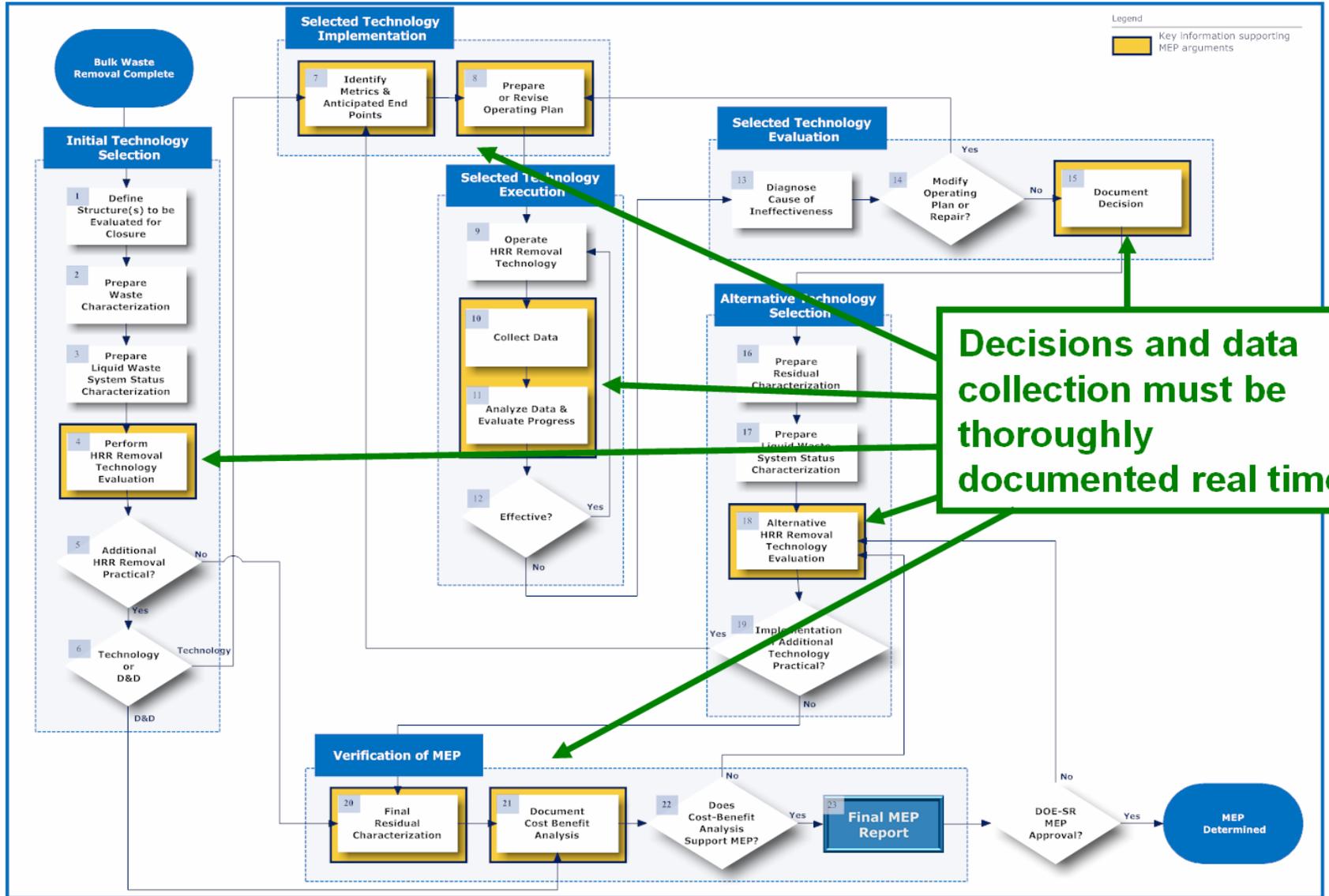


**Not all data is meaningful**

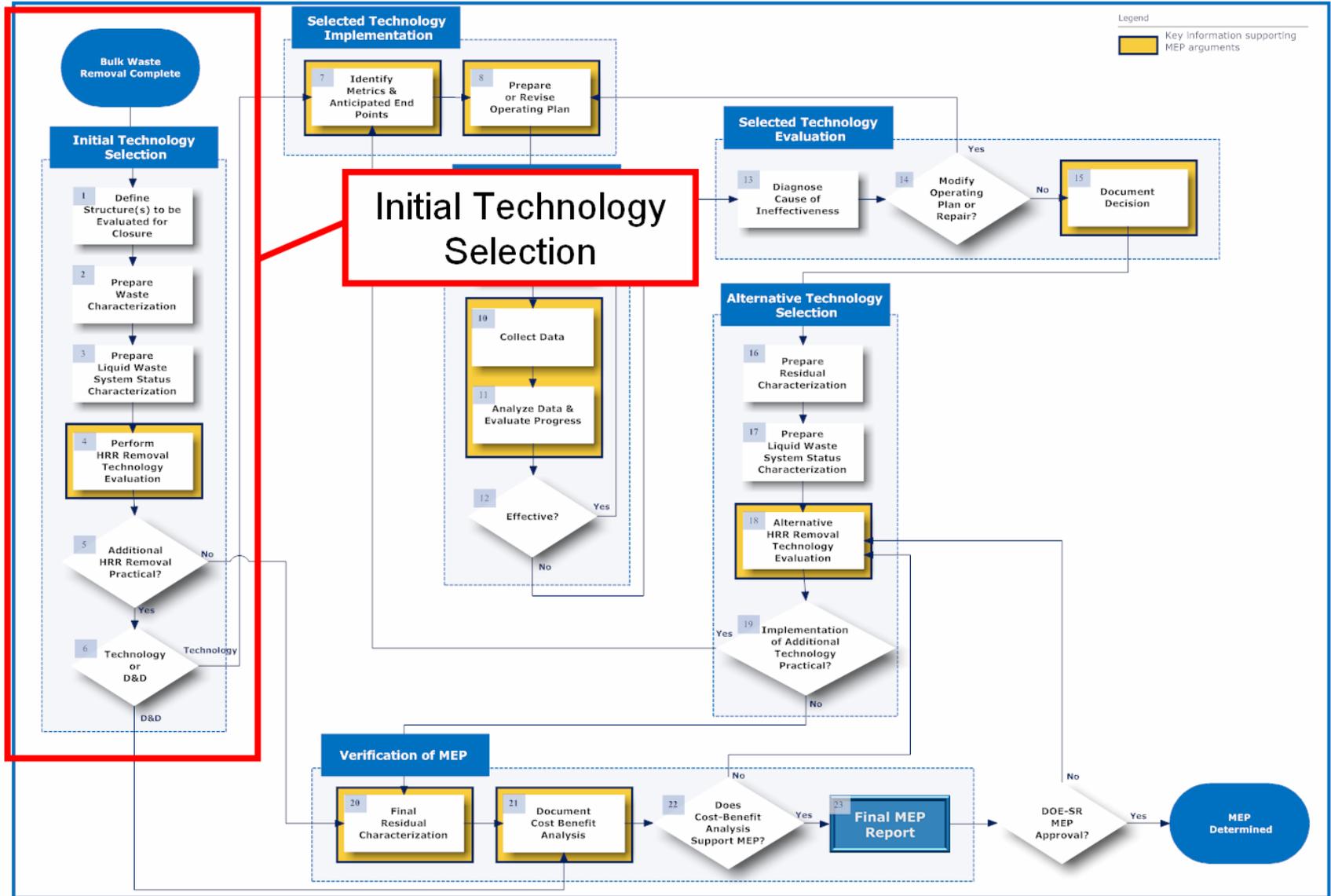
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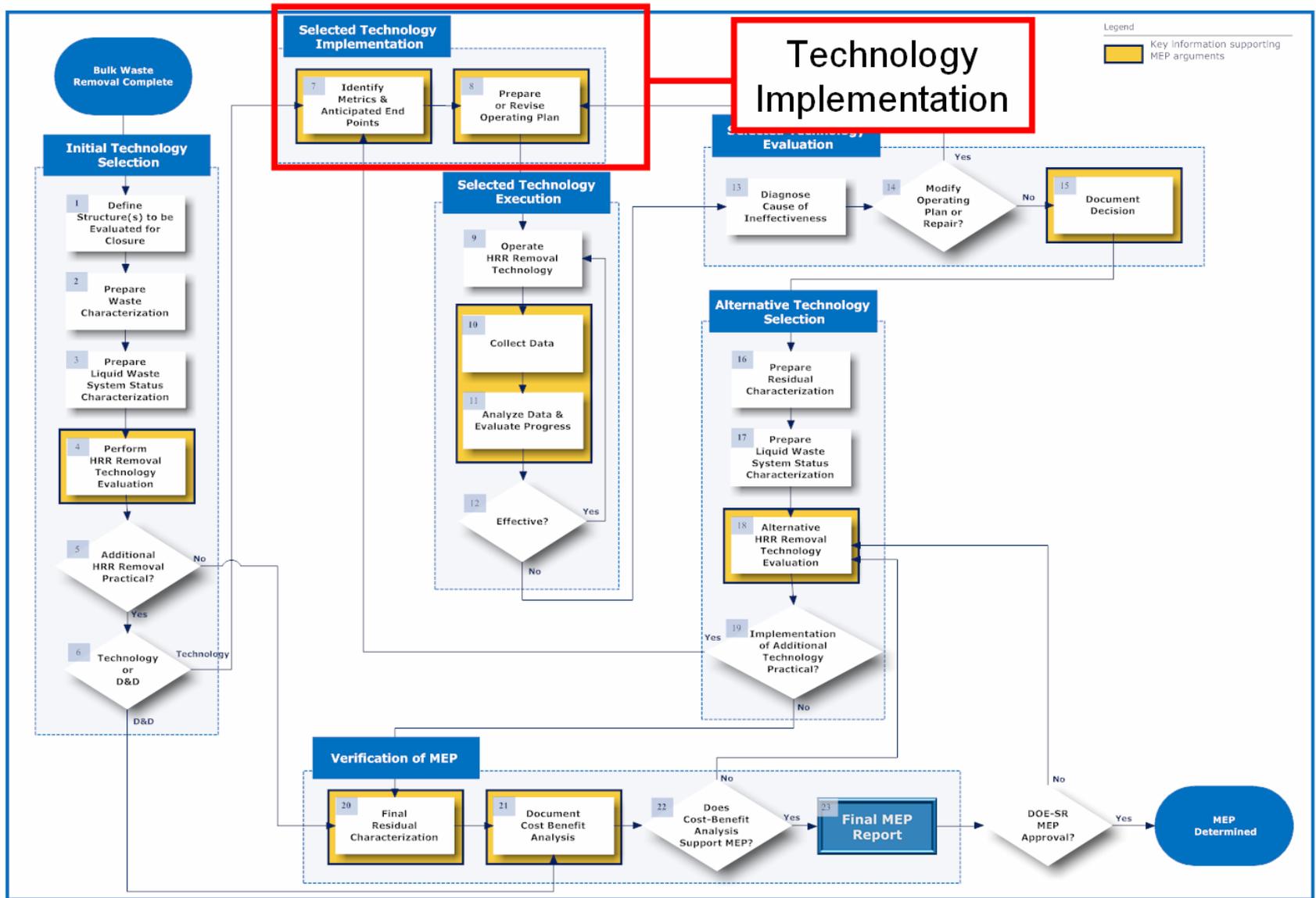
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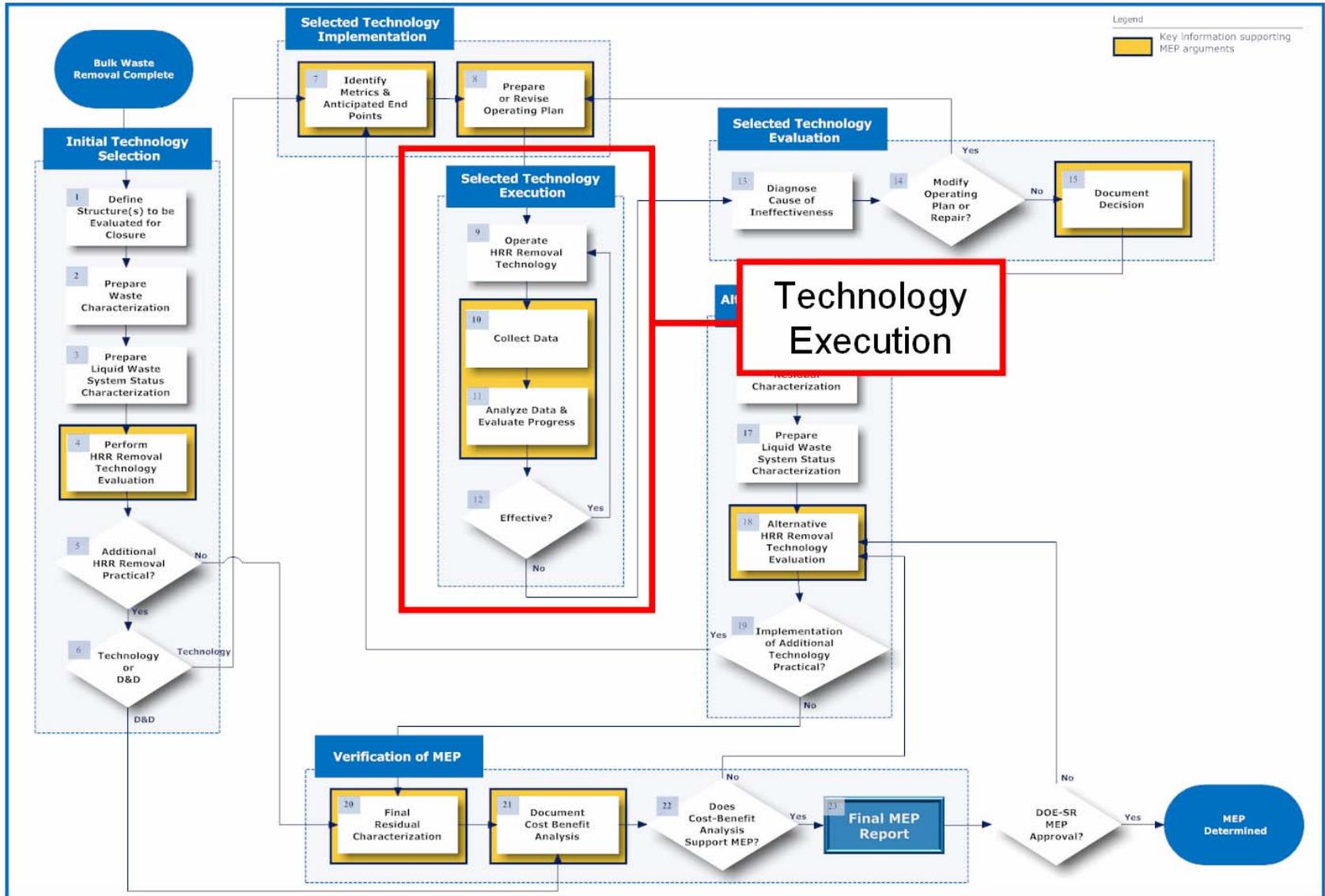
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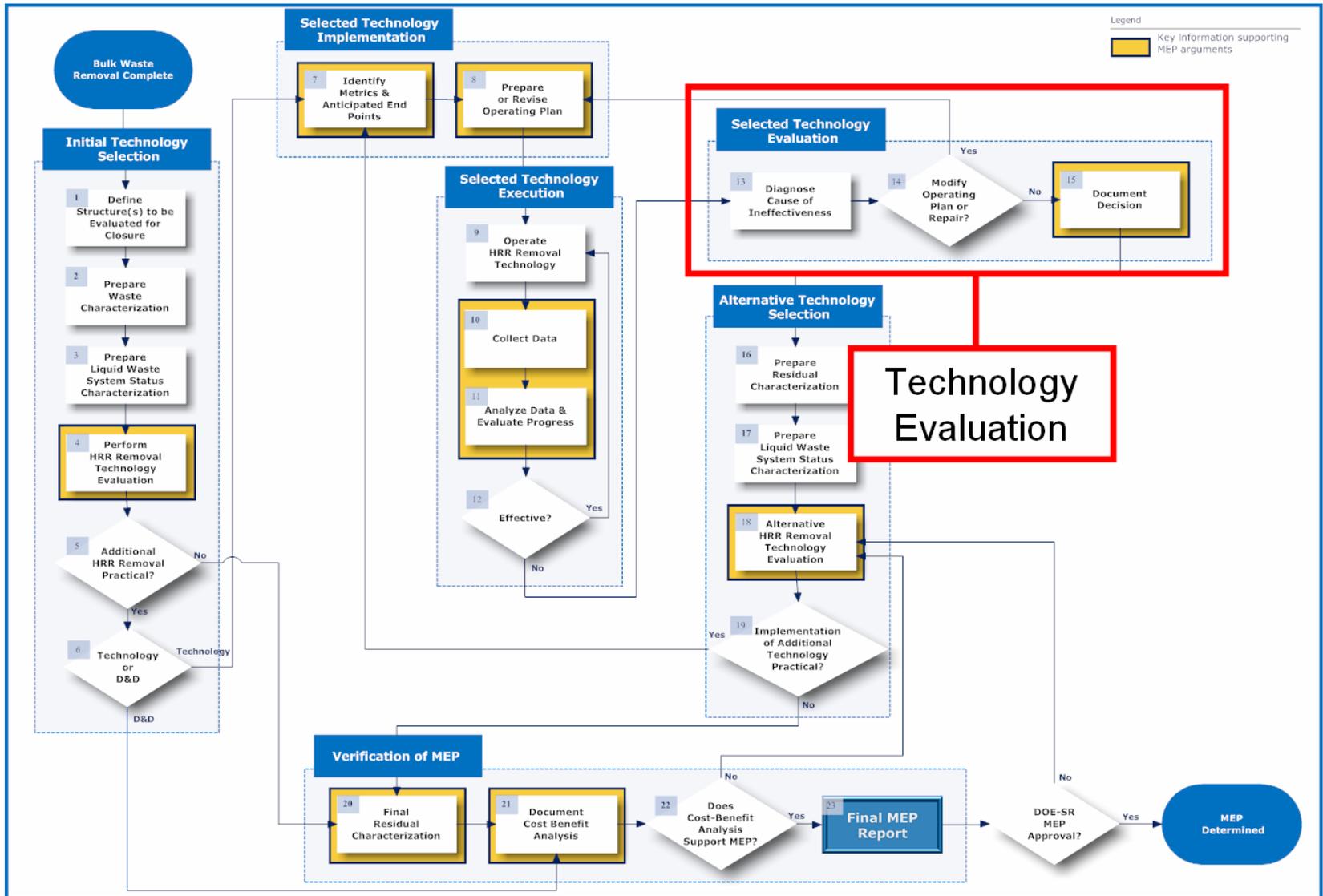


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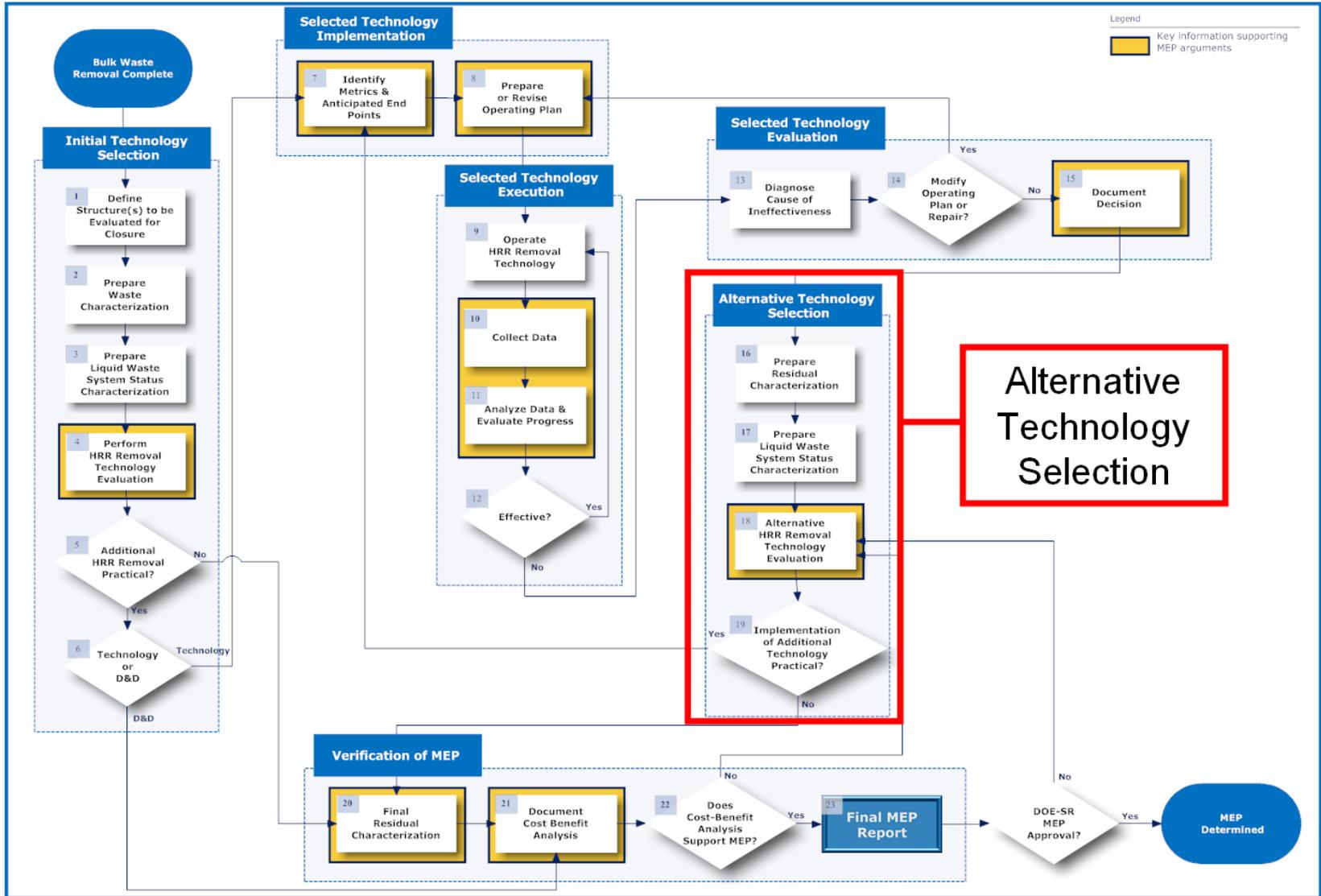


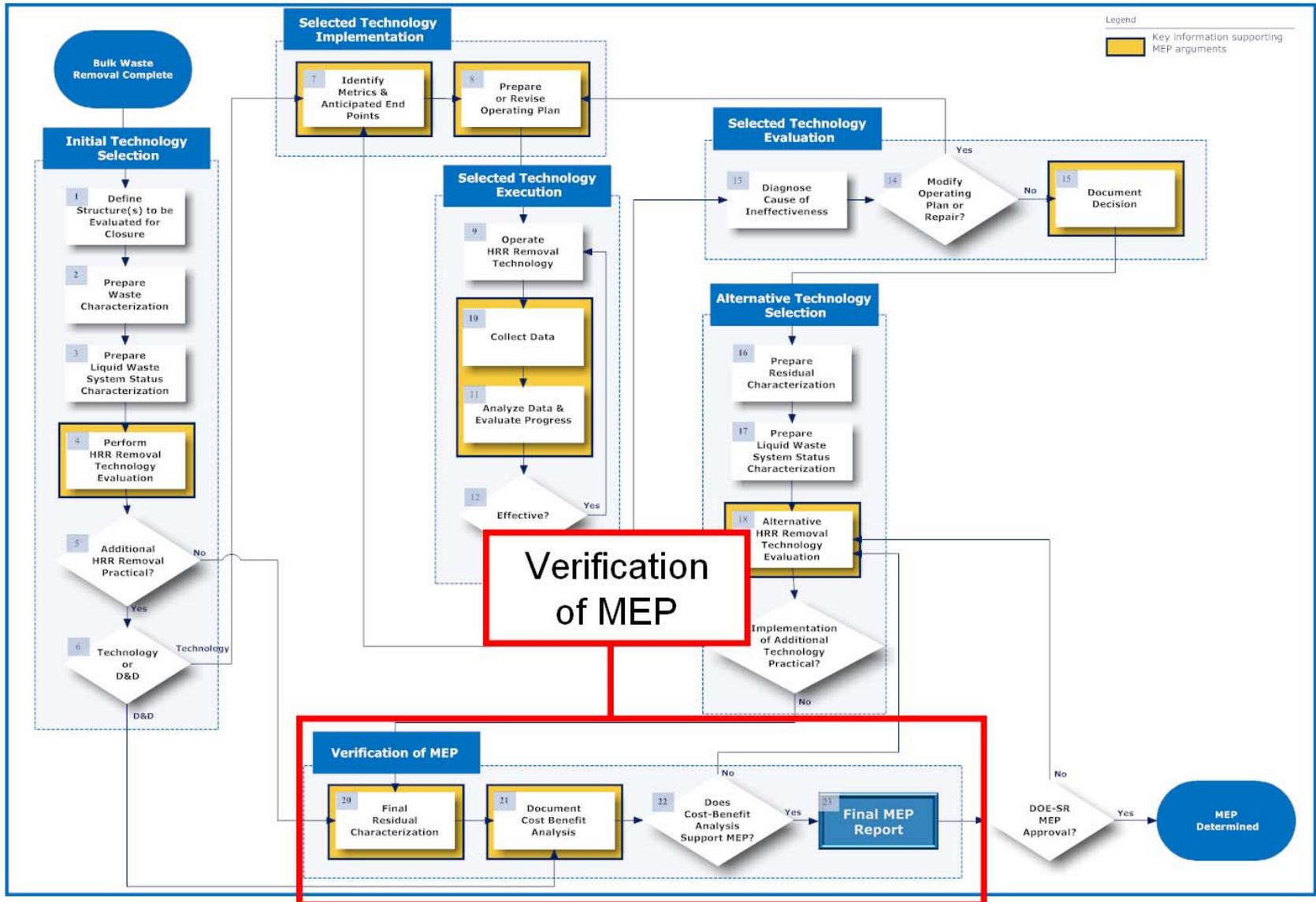
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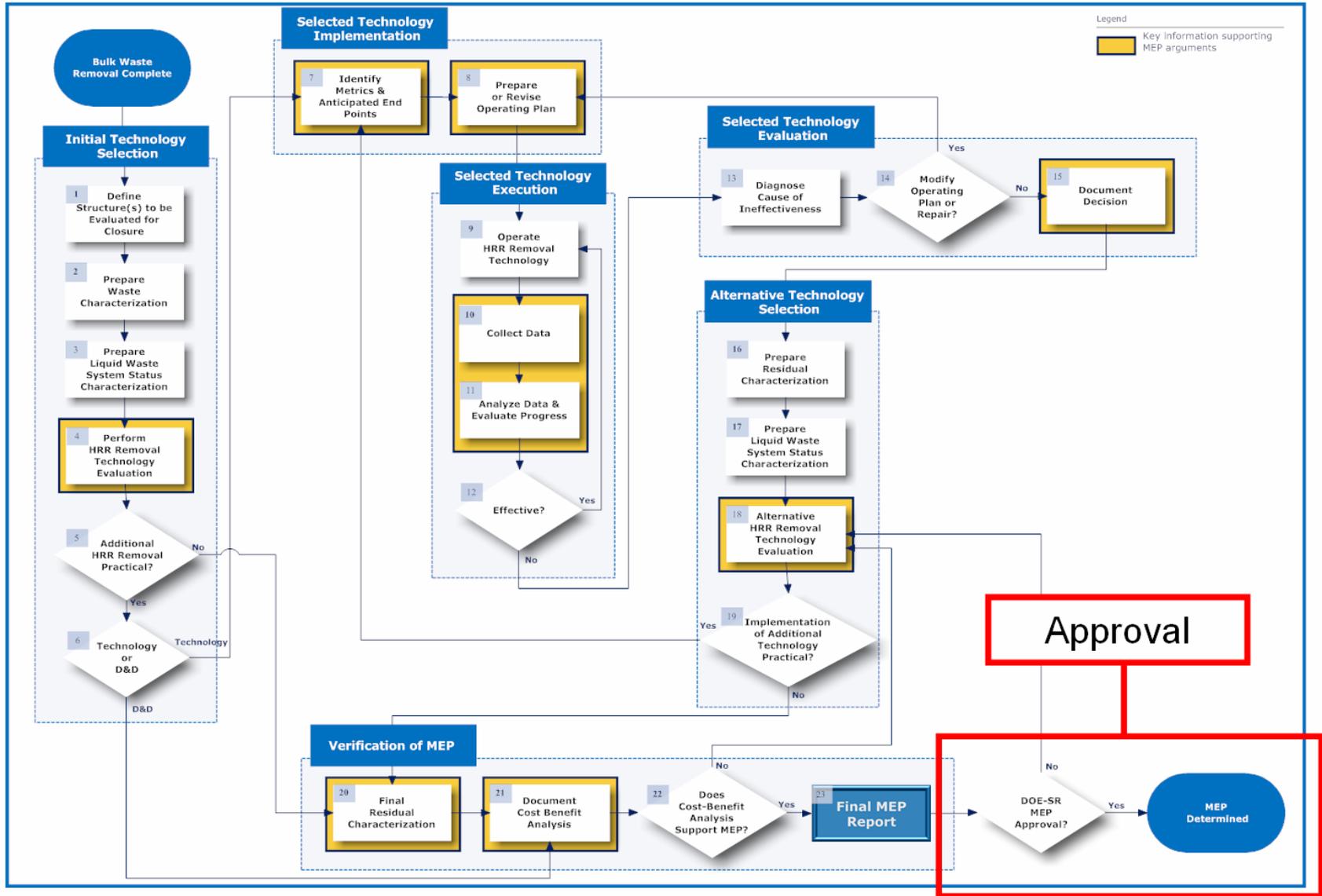


# “Practicality” Demonstration



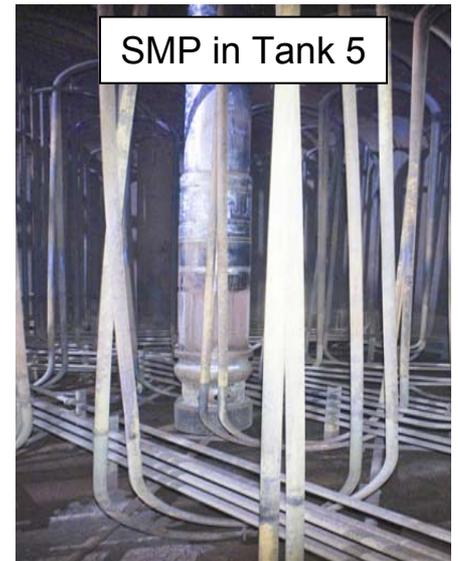


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# Early Focus on Optimization

- Important to optimize processes on earliest tanks
- Submersible Mixer Pumps (SMP)
  - Effective cleaning radius impacted by obstructions
  - Required use of an additional SMP per tank to overwhelm the obstructions
  - Use of feed-&-bleed technique improved effectiveness
- Early actions establish long-term expectations and paradigms



- Regulator paradigms around compliance sampling can impact sampling protocols
- Residual characterization  $\neq$  compliance sampling
  - Must establish this fact from Day One
- Characterization enables today's prediction of tomorrow's compliance
  - Relative new concept to some regulators
- Future compliance demonstrated through future groundwater monitoring
  - Avoid making our closure actions “special”

- The better the job of cleaning, the harder it is to characterize
  - A winner's problem – but still a problem
- Tank physical configuration limits accessibility
- Residual waste configuration drives sample locations within the tank
- Special tools are required – early development needed



- Seeking to quantify very low concentrations
- Using traditional detection limits significantly overestimates contaminants and can impair progress
- Need to define and develop new analytical techniques early
- Regulators are used to standard environmental sample analysis procedures

- Strong progress is being made in removing waste from SRS tanks and in preparing for grouting
- Regulatory document development is on schedule
- Application of lessons learned is improving our efficiency and effectiveness
  - Opportunities to further improve process abound

