



Revised Risk Matrix Approach for SDP

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**Draft Significance Determination Process Matrix
 per SECY-10-0140**

Degree of Nonconformance	High	White	Yellow	Red
	Medium	Green	White	Yellow
	Low	Green	Green	White
	Minimal	Green	Green	Green
		Low Importance	Intermediate Importance	High Importance
		Risk Importance		

SRM on SECY-10-0140

“For the SDP in the cROP, the staff should assess risk using risk importance measures with selected thresholds that are comparable and technically consistent with risk threshold levels used in the ROP.”

$\Delta\text{CDF} > 1 \text{ E-4}$
$1 \text{ E-5} < \Delta\text{CDF} \leq 1 \text{ E-4}$
$1\text{E-6} < \Delta\text{CDF} \leq 1 \text{ E-5}$
$\Delta\text{CDF} \leq 1 \text{ E-6}$

Revised Approach

- **Recognizing that the ROP Δ CDF thresholds represent calculated risk levels at power, for a given new reactor design with an internal events CDF, equate the range from the ROP to system level (or if available, function level) risk achievements worth (RAW) for the sole purpose of categorizing the risk importance of each system or function, e.g.:**

CDF (i.e.) $\sim 2.5E-7$ /yr

“Red” threshold Δ CDF $> 1E-4$ /yr

**System RAW for rightmost column $> 1E-4/2.5E-7$
 > 400**

Example: AP1000

AP1000 internal events CDF ~ 2.5 E-7					
	≤ 1 E-6	1 E-6 to 1 E-5	1 E-5 to 1 E-4	> 1 E-4	ΔCDF thresholds per ROP
Degree of nonconformance					
	Very low	Low	Intermediate	High	Risk Importance
	< 4	4 to 40	40 to 400	> 400	System RAW
	<u>Systems</u>				
	all others, e.g.:	PLS	CMT	PMS	
	SWS	DC-Non 1E	ACC	DC-1E	
	CCS	DAS	PRHR	IRWST	
	SFW	AC power		ADS	
	DG				
	MFW				

Summary

- **Approach is consistent with current ROP**
- **Reactor designs with lower CDF will tend to have fewer systems/functions in the rightmost columns, while designs with higher CDFs may have more systems/functions to the right**