Sensitivity Studies to Address PRA Adequacy

- **Using SPAR Enhancement results, identified major differences between SPAR and licensee PRA model (e.g. basic event probability, initiating event frequency, system success criterion).**

- **Differences grouped into 3 to 7 categories of issues (e.g. AC power, AFW system, PORV success criterion, etc.).**

- **"Change set" generated and SPAR model re-run one issue at a time for each plant.**

- **Generated new PRA results including revised Birnbaum importance measures.**

- **New Birnbaums fed back into MSPI algorithm to generate new MSPI results.**

- **Quantitative and qualitative (color indication) changes in MSPI provide a measure of sensitivity of results to model differences.**

Sensitivity Study Results

- **Impact of Model Differences:**
  - **Large: difference greater than 5E-7, likely to affect color performance indication given failures in the system**
  - **Medium: difference between 1E-7 and 5E-7, has the potential to affect color given sufficient failures in the system**
  - **Low: difference less than 1E-7, unlikely to affect MSPI results.**

Potential Impact on MSPI	PRA Model Difference Issue									
	PORV Success Criterion	AC Power	DC Power	LOCA Issues	HPI Issues	HRS Issues	RHR Issues	SWS/CCW Issues	Power Conversion System	Misc. Issues
Large	Braidwood			Millstone 2				Salem		
Medium		Hope Creek Millstone 3 Salem	Braidwood		Hope Creek Millstone 3	Millstone 3 Palo Verde		Hope Creek Millstone 2	Braidwood Hope Creek Limerick Millstone 3	Hope Creek
Small	All others	All others	All others	All others	All others	All others	All	All others	All others	All others

(assumes all components have one failure beyond baseline)

14