

RIC 2006

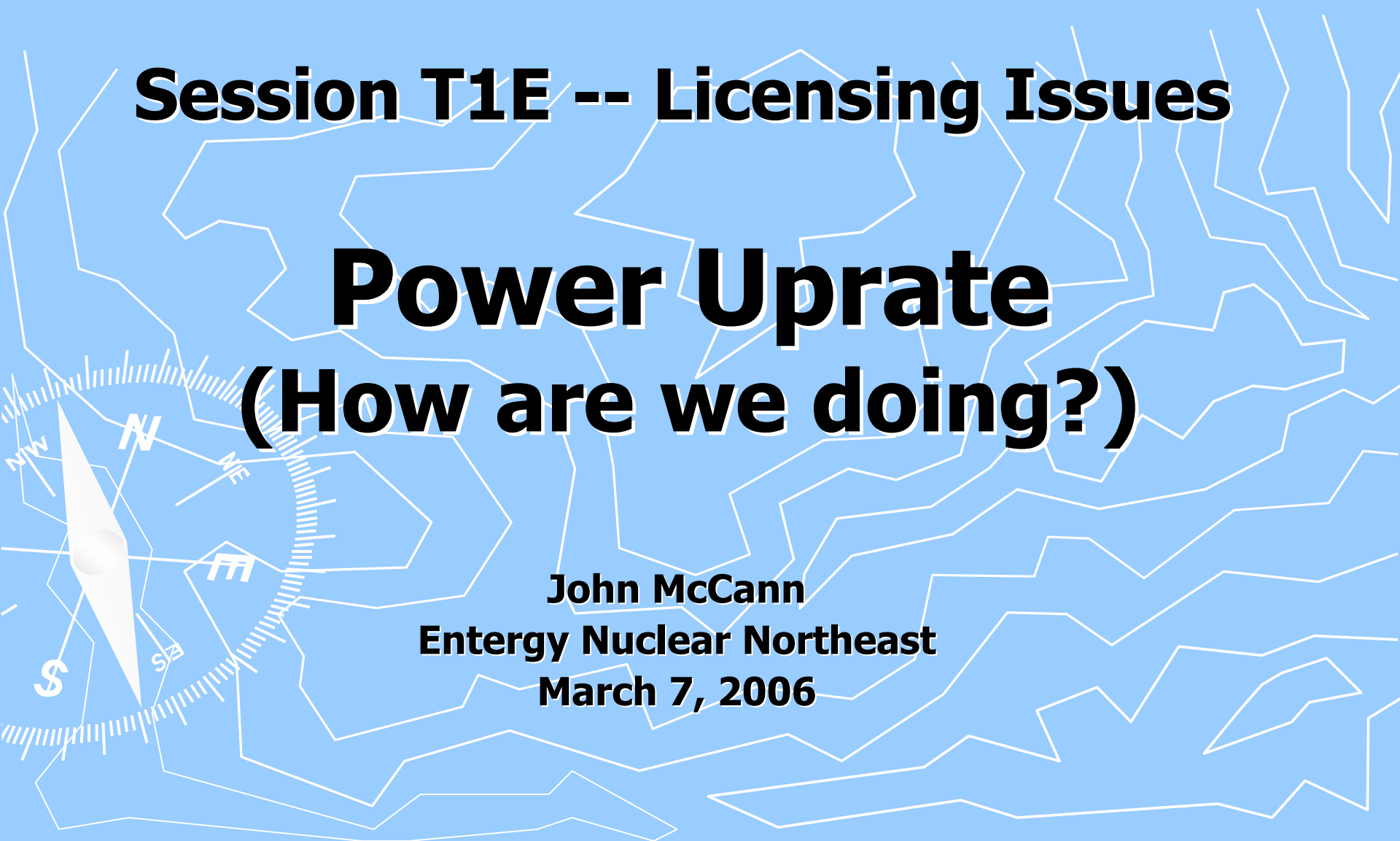
Session T1E -- Licensing Issues

Power Uprate (How are we doing?)

John McCann

Entergy Nuclear Northeast

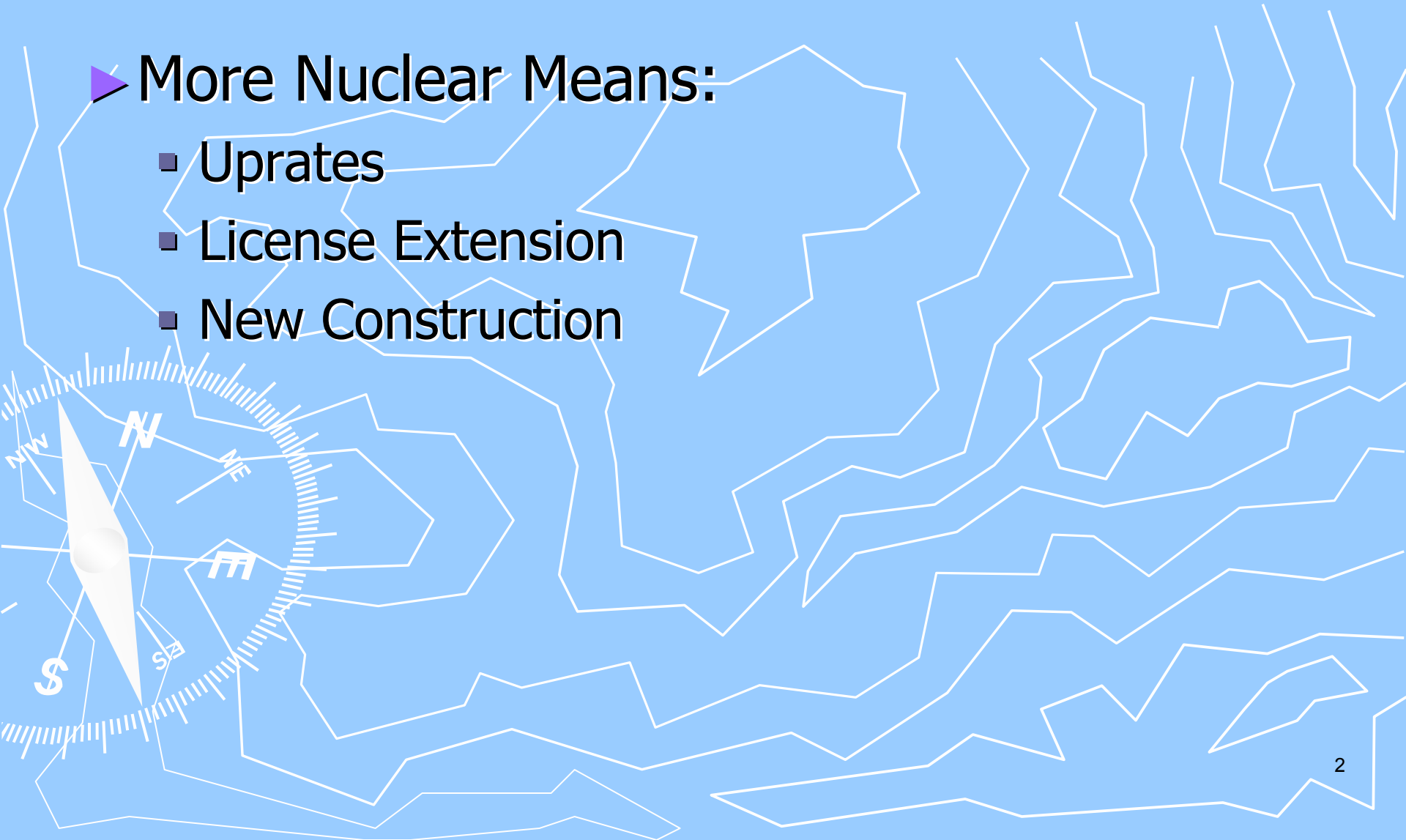
March 7, 2006



Upgrades in the “Big Picture”

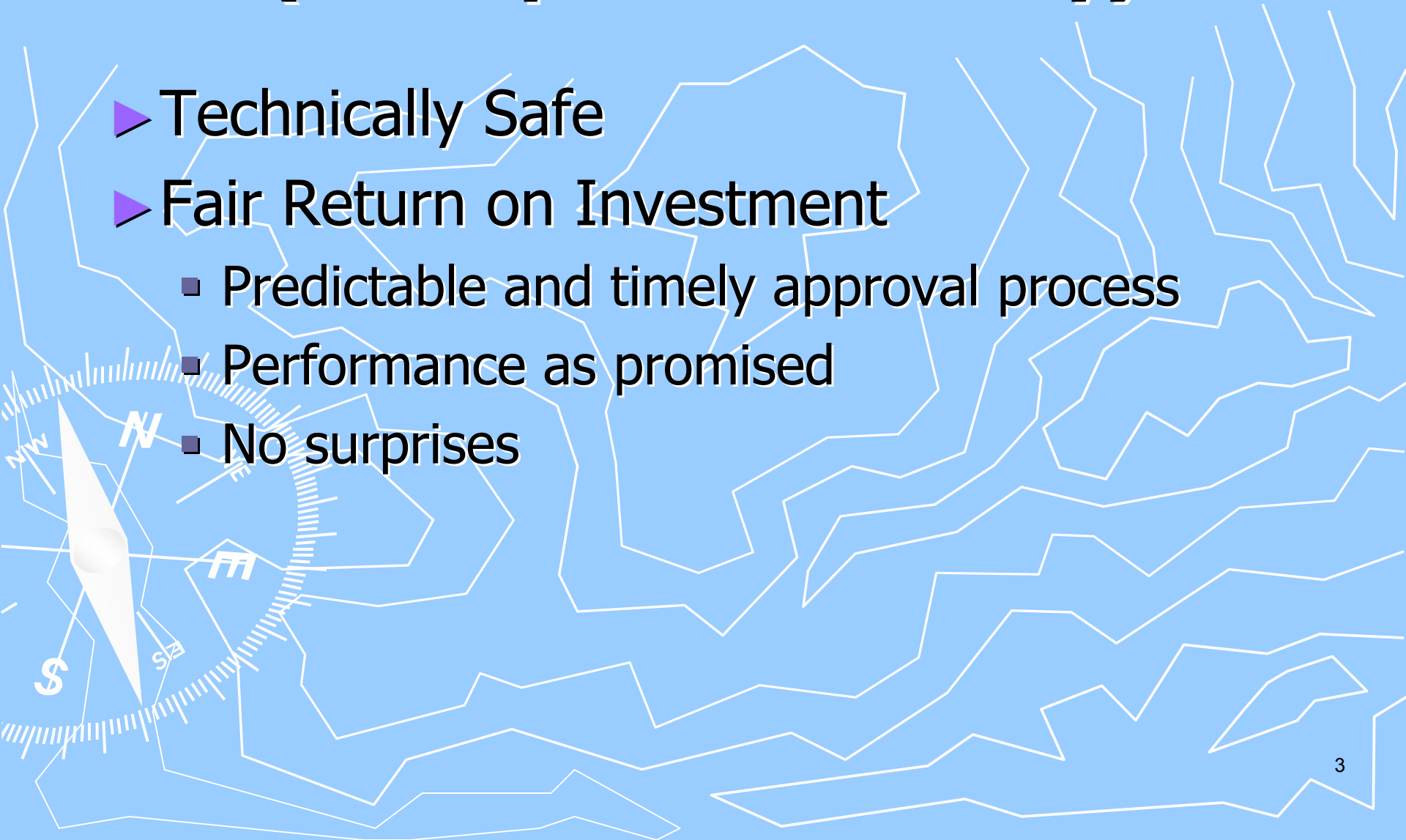
► More Nuclear Means:

- Upgrades
- License Extension
- New Construction



The “Go Forward” Test (Perception is Reality)

- ▶ Technically Safe
- ▶ Fair Return on Investment
 - Predictable and timely approval process
 - Performance as promised
 - No surprises

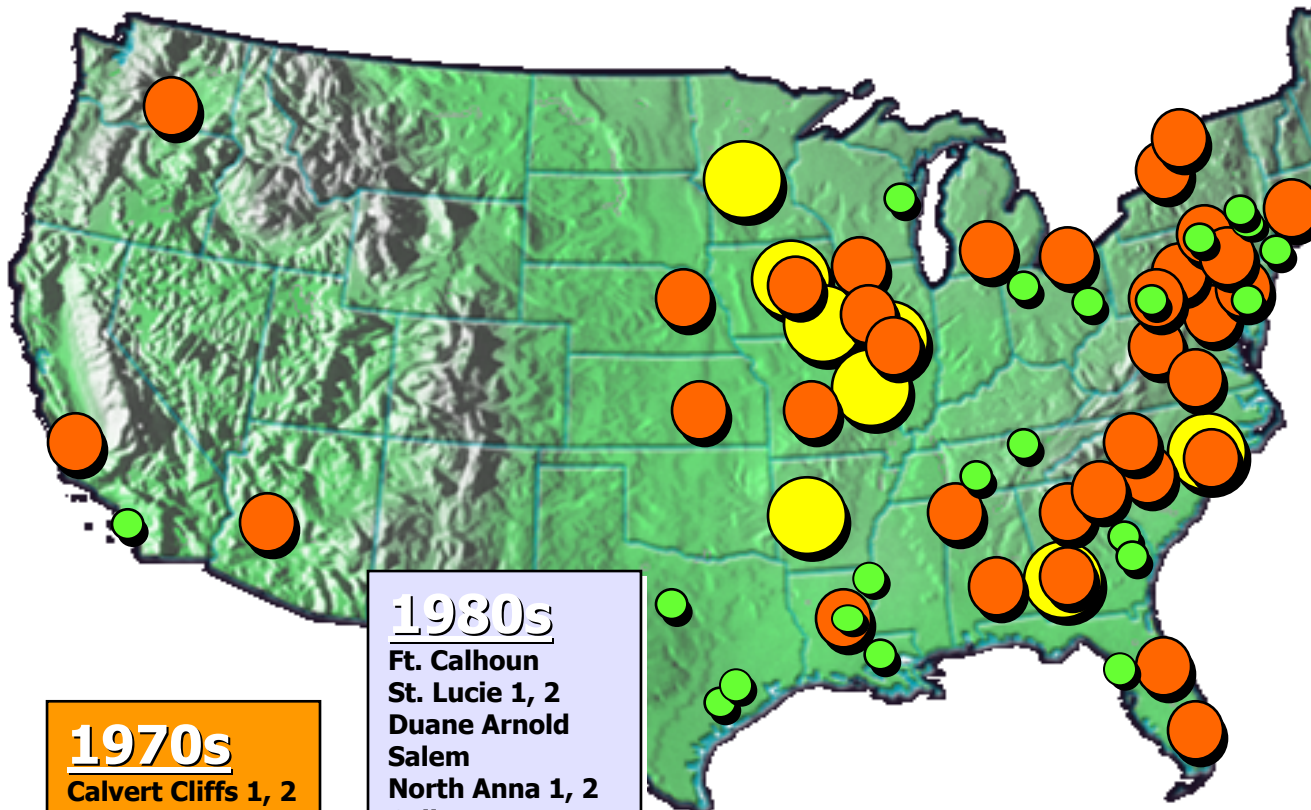


We're Doing Pretty Well

- ▶ 4,492.7 MWe of added nuclear capacity through all Power Upgrades as of February 15, 2006.
- ▶ BUT still plenty of room for improvement
- ▶ Some surprises

The History of Uprates in the USA

● EPU ● SPU ● MUR



1970s

Calvert Cliffs 1, 2
Robinson
Millstone 2

1980s

Ft. Calhoun
St. Lucie 1, 2
Duane Arnold
Salem
North Anna 1, 2
Callaway
TMI-1

1990s

Fermi 2	Vogtle 1, 2
Wolf Creek	Susquehanna 1,2
Peach Bottom 2, 3	Limerick 1, 2
WNP2	NMP2
Hatch 1, 2	Surry 1, 2
Summer	Comanche Peak 2
Turkey Point 3, 4	Palo Verde 1, 2, 3
Brunswick 1, 2	Fitzpatrick
Browns Ferry 2, 3	Farley 1, 2
Monticello	

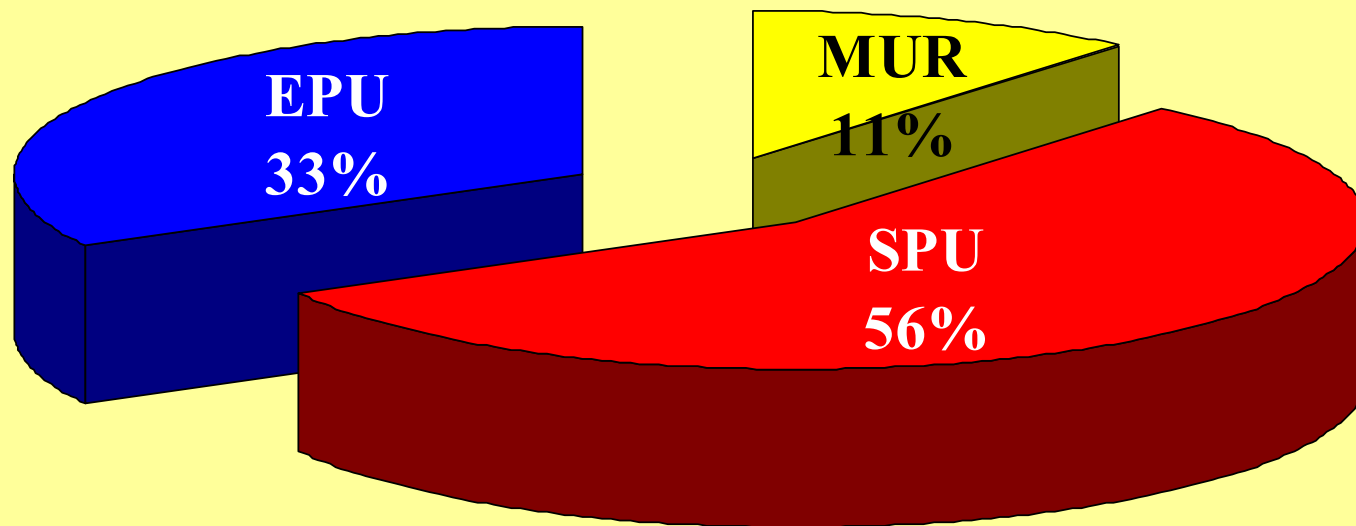
2000s

River Bend	Diablo Canyon 1
Watts Bar	Byron 1, 2
Braidwood 1, 2	Salem 1, 2
Susquehanna 1, 2	San Onofre 2, 3
Hope Creek	Beaver Valley 1, 2
Harris	Comanche Peak 1,2
Duane Arnold	Dresden 2, 3
Quad Cities 1, 2	Waterford 3
STP 1, 2	Brunswick 1,2
Clinton	ANO-2
Davis Besse	Sequoya 1, 2
Palo Verde 1,2, 3	La Salle 1, 2
Perry	Grand Gulf
Robinson	Peach Bottom 2, 3
Indian Point 2, 3	Point Beach 1, 2
Crystal River 3	DC Cook 1
River Bend	Kewaunee
Hatch 1&2	Pilgrim
DC Cook	Seabrook

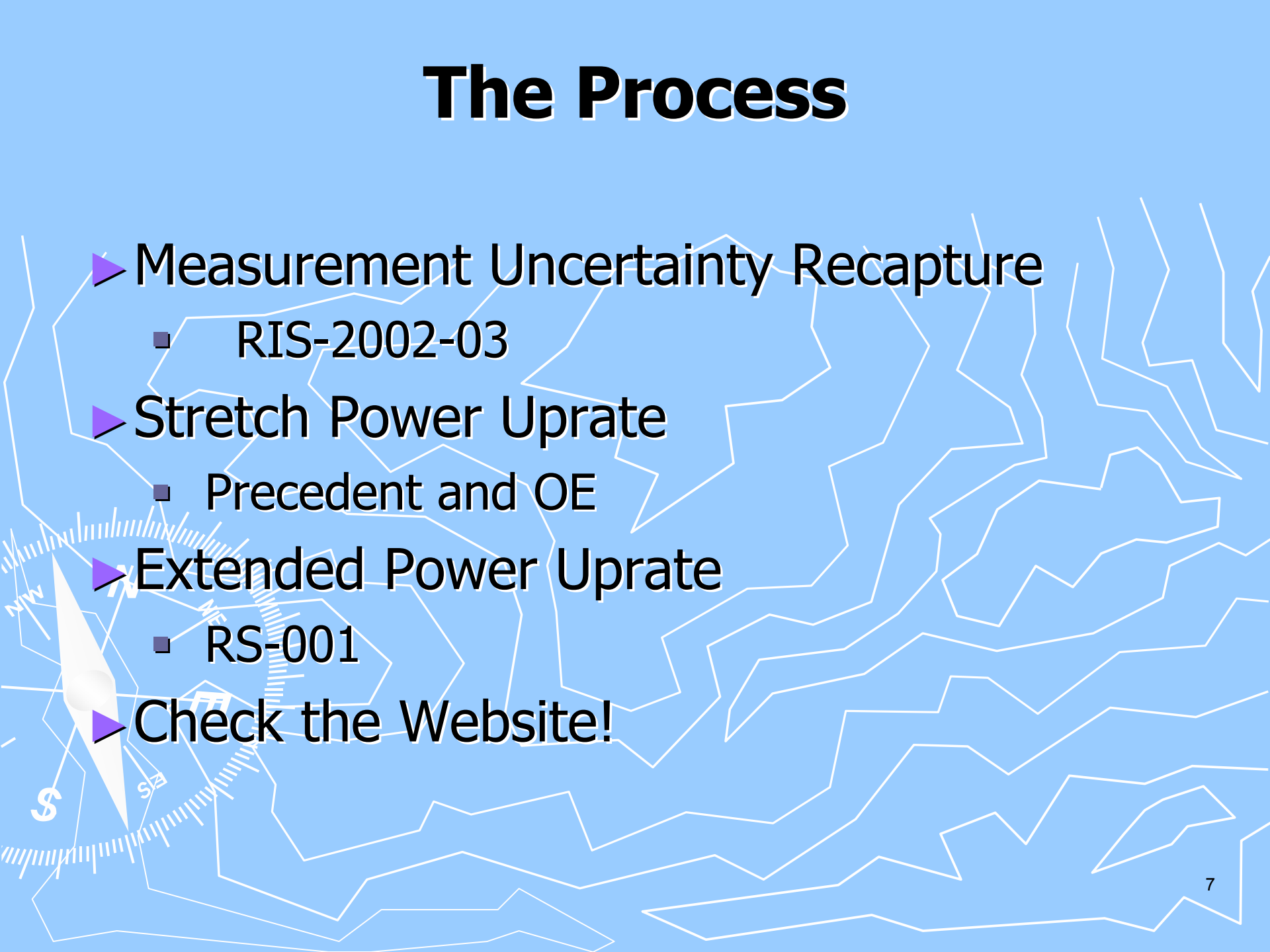
SOURCE: US NRC
Dual Units shown only once

The History of Upgrades in the USA

NRC-Approved Upgrades - MWe by Type



The Process

- 
- ▶ Measurement Uncertainty Recapture
 - RIS-2002-03
 - ▶ Stretch Power Uprate
 - Precedent and OE
 - ▶ Extended Power Uprate
 - RS-001
 - ▶ Check the Website!

Uprate Issues

- ▶ Overpower
- ▶ Flow induced vibration
- ▶ Steam Dryers
- ▶ Generic “hot topics”



Factors for Success

- ▶ Previous Experience Awareness
- ▶ Engineering Quality
- ▶ Innovation
- ▶ Communications
- ▶ Focus



Questions/Comments?

