

An Update on Risk-Informed, Performance Based Licensing of Source Materials: How are We Doing?

Jim Viellenave
AUC LLC

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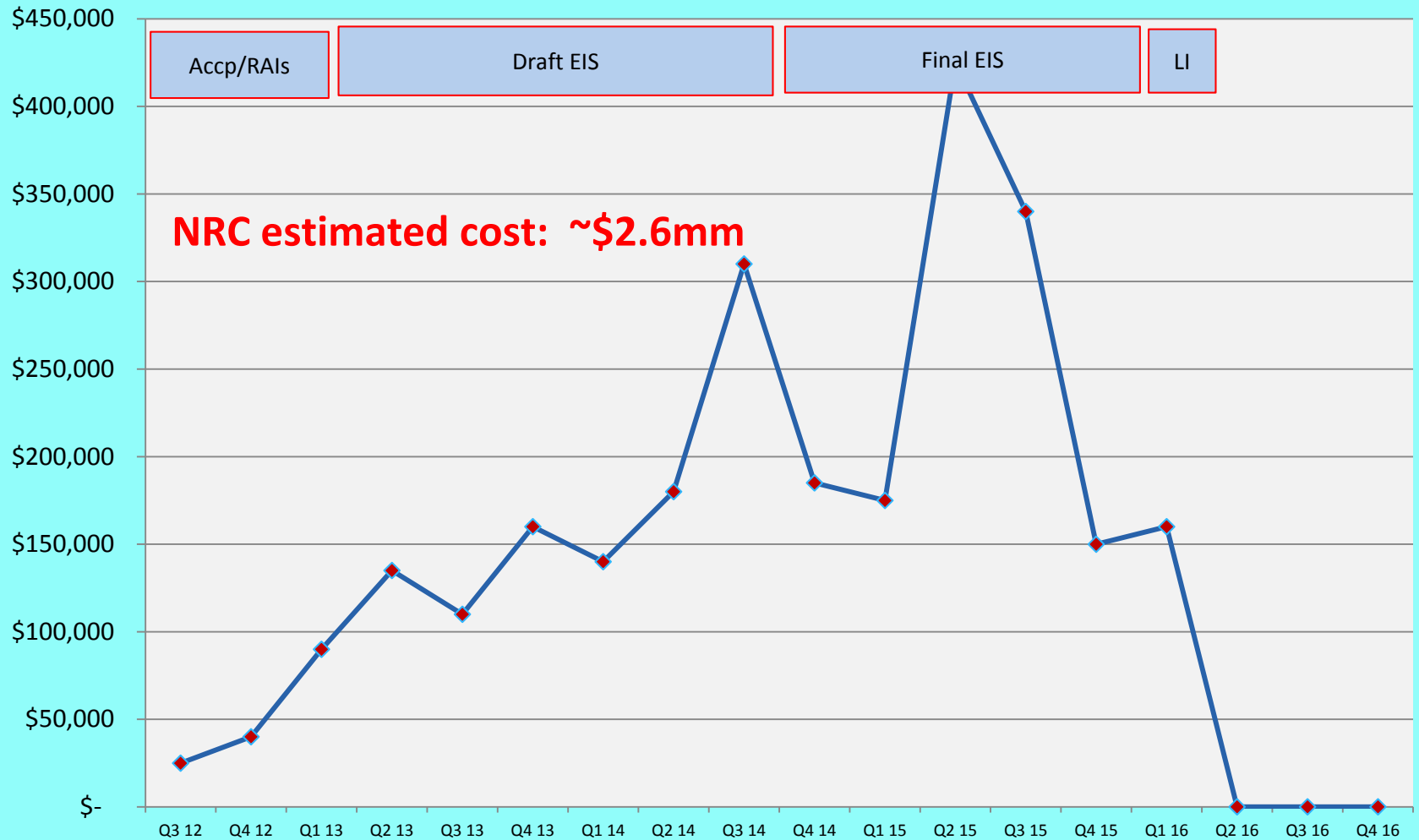
NRC'S EFFICIENCY ISSUES IN PERMITTING 2009-2012

- Coordination between Safety and Environmental
- Pre-submission audit
- Contracting issues in Environmental
- Section 106—getting to a decision; making it
- Learning and applying from prior projects
- Communications/interaction between staff & applicants
- Outreach and transparency of process and results
- Default to lowest resource consuming approach when risks are low.

NRC PROCESS SOLUTIONS

- Using the GEIS
 - Recognition of normal, small to medium impacts & mitigation
 - Supplemental EISs to focus on greater or different impacts
 - Creates science based Risk Analysis in the EIS process
 - Shortening of the processing time without sacrificing oversight
- Lessons Learned
 - Use experience gained in prior applications
 - NRC to focus its staff on issues that matter
 - Industry to become more responsive
 - Transparency & communications

NRC GENERIC TIME & COST ESTIMATE*

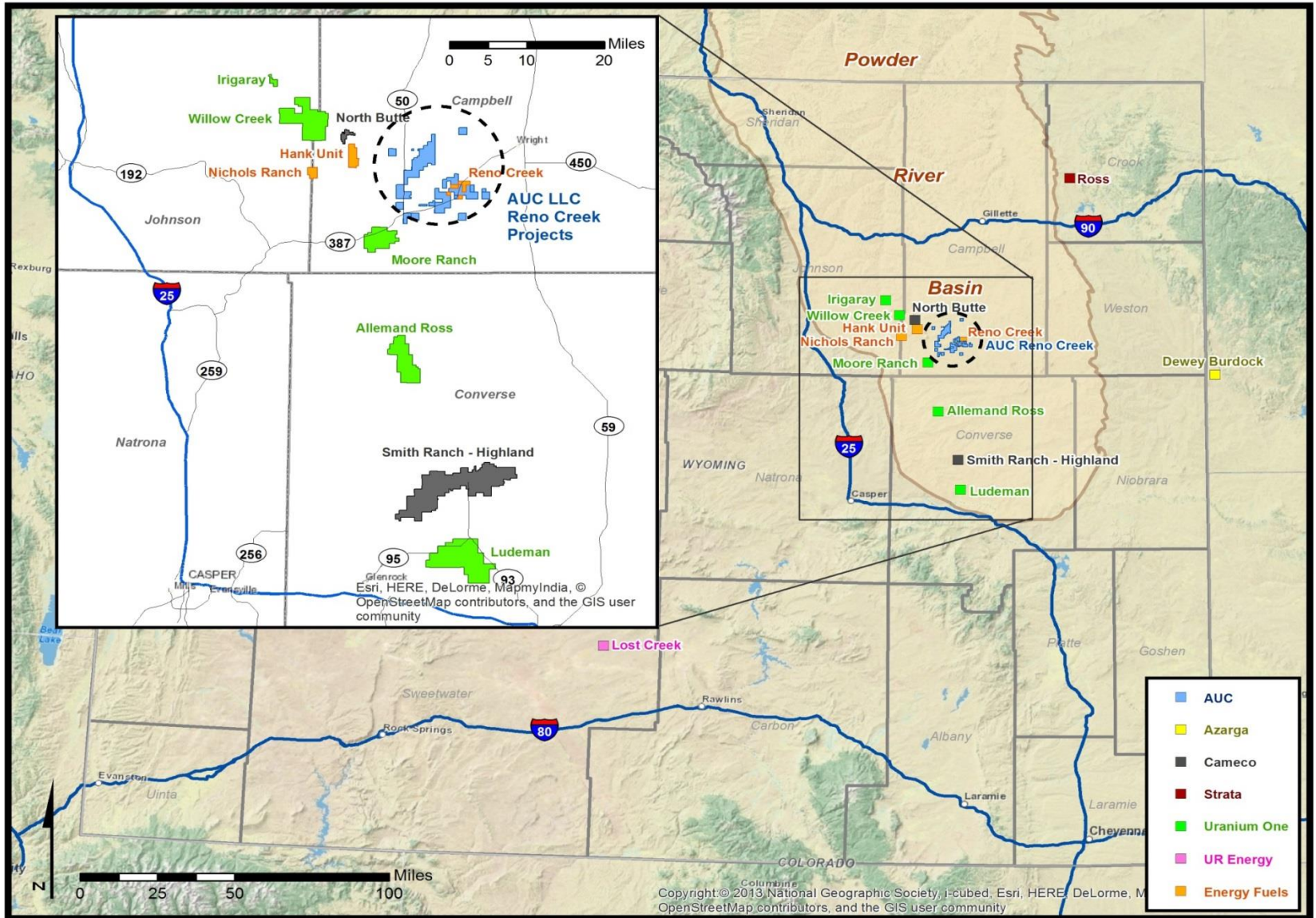


*Persinko & von Till, NMA Conference, May 2013

CAVEATS ON COST & SCHEDULE: WHAT COULD GO WRONG?

- Hearings
- NGO objections
- Hot button environmental issues
- BLM or other Federal land
- Application quality
- Applicant responsiveness
- Staff availability
- Recognized TCPs
- The State DEQ

RENO CREEK PROJECT



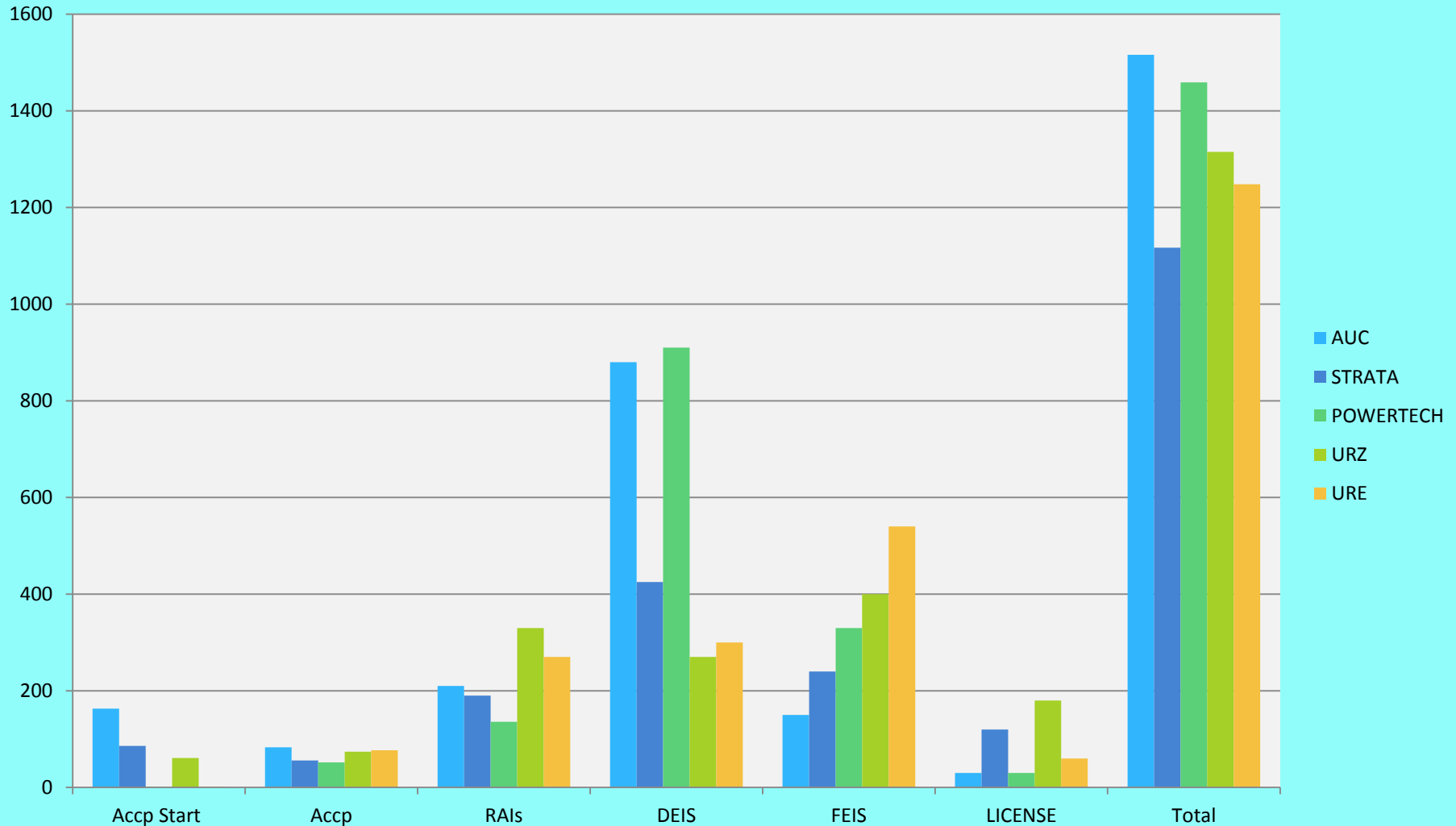
RENO CREEK PROJECT: HOT BUTTON ISSUES

ITEM	RENO
BLM or other Federal lands	None
Pre-submission Audit	Yes
NGO objections	None
Public Hearings	None
Public Comments on WDEQ Mine Permit/ Class I/Class III/Aquifer Exemption	None
Administrative Hearings	None
Threatened/Endangered Species	None
Sage Grouse Leaks	None
Sage Grouse Core Areas/Corridors	~20 miles
National Register Eligible Cultural Resources	None
Identified TCPs	None
Lack of Geologic Confinement	None
Faulting	None
Surface Water Impacts	None
Visual Impacts	Tiny
Access Issues	None

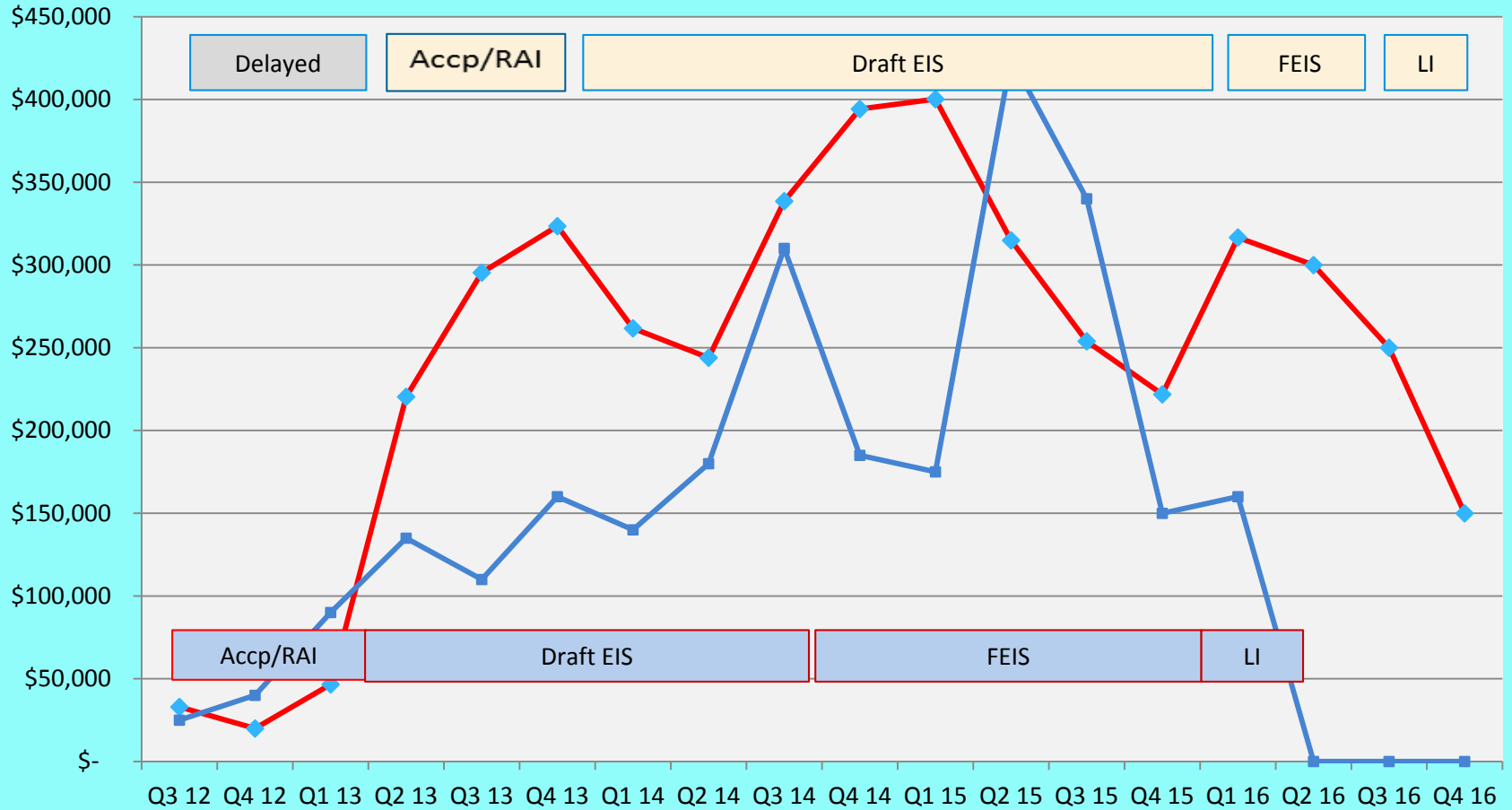
GEIS IMPACTS vs RENO CREEK IMPACTS

Resource	GEIS		Reno		Resource	GEIS		Reno	
	S/M/L	Quant	S/M/L	Quant		S/M/L	Quant	S/M/L	Quant
Land Use					Air Quality				
Const	S		S		Const	S		S	
Oper	S		S		Oper	S		S	
Aq Rest	S		S		Aq Rest	S		S	
D&D	S/M		S		D&D	S		S	
Transportation					Noise				
Const	S/M		S		Const	S		S	
Oper	S/M		S		Oper	S		S	
Aq Rest	S/M		S		Aq Rest	S		S	
D&D	S		S		D&D	S		S	
Geo & Soils					Cultural Resources				
Const (disturbance)	S	~15%	S	<5%	Const	S/M/L		S	None Eligible
Oper	S		S		Oper	S/M/L		S	None Eligible
Aq Rest	S		S		Aq Rest	S/M		S	None Eligible
D&D	S		S		D&D	S		S	None Eligible
Water Resources					Visual/Scenic				
Surface					Const	S		S	
Const	S		NA		Oper	S		S	
Oper	S		NA		Aq Rest	S		S	
Aq Rest	S		NA		D&D	S		S	
D&D	S		NA		Socio Economics				
Ground Water					Local Population				
Const	S		S		Const	S/M	375	S	31,000
Oper					Oper	S/M	200	S	100
Shallow	S/M/L		S		Aq Rest	S	80	S	60
Mining zone					D&D	S/M		S	
Consumption	M/S	180 AF	S	75 AF	Public/Occ Health				
Drawdown	M/S	52-88 m		5-15 m	Const	S		S	
DDWs	S	3-13,000ppm	S	8-13,000ppm	Oper	S		S	
Aq Rest short term	S/M		S		Aq Rest	S		S	
Aq Rest long term	S		S		D&D	S		S	
D&D	S		S		Waste Mgmt				
Ecological Resources					Const	S		S	
Const	S/M/L		S		Oper	S		S	
Oper	S/M/L		S		Aq Rest	S		S	
Aq Rest	S/M		S		D&D	S		S	
D&D	S		S						

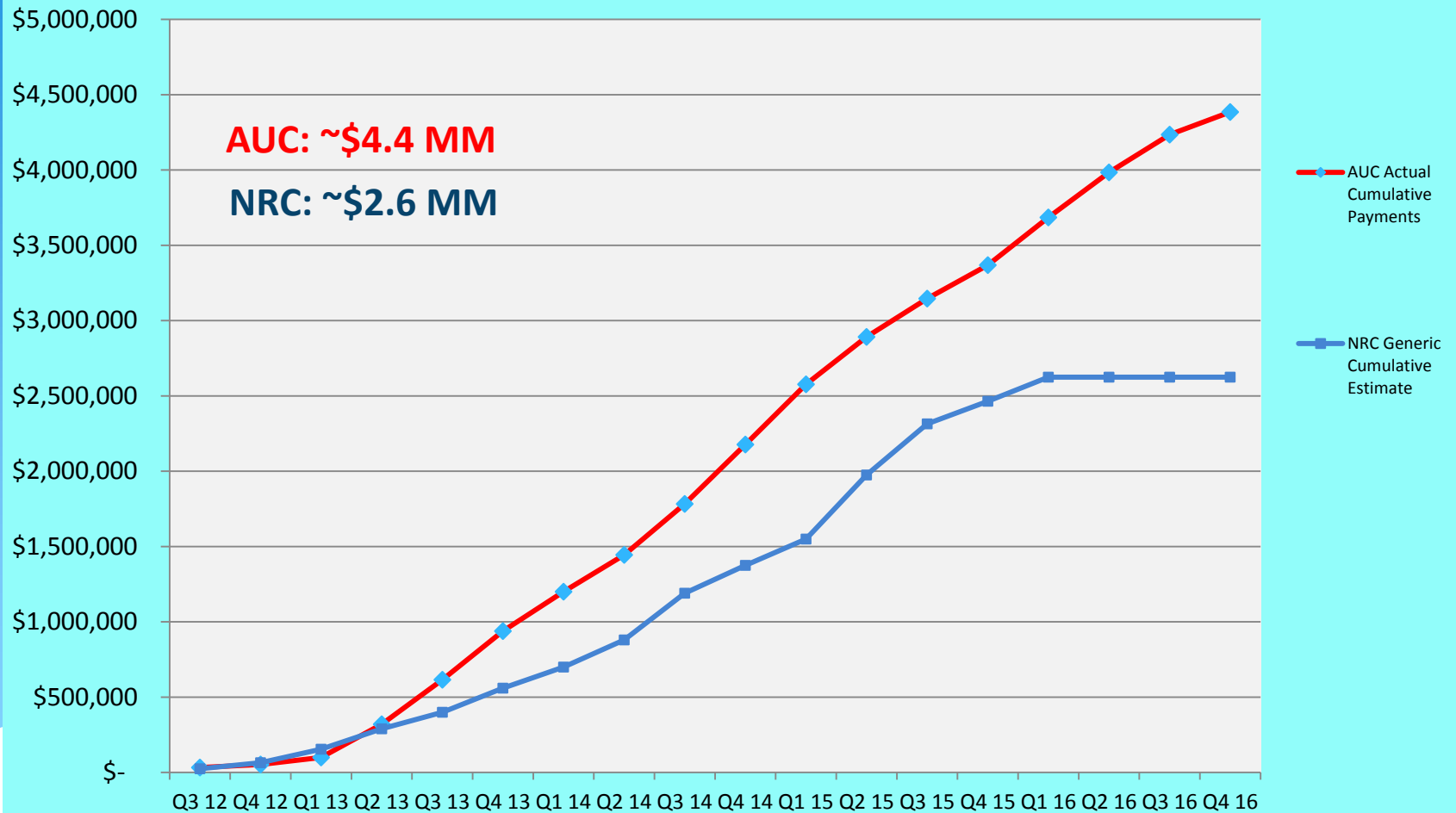
DAYS TO PERFORM TASKS COMPARISON OF APPLICATIONS



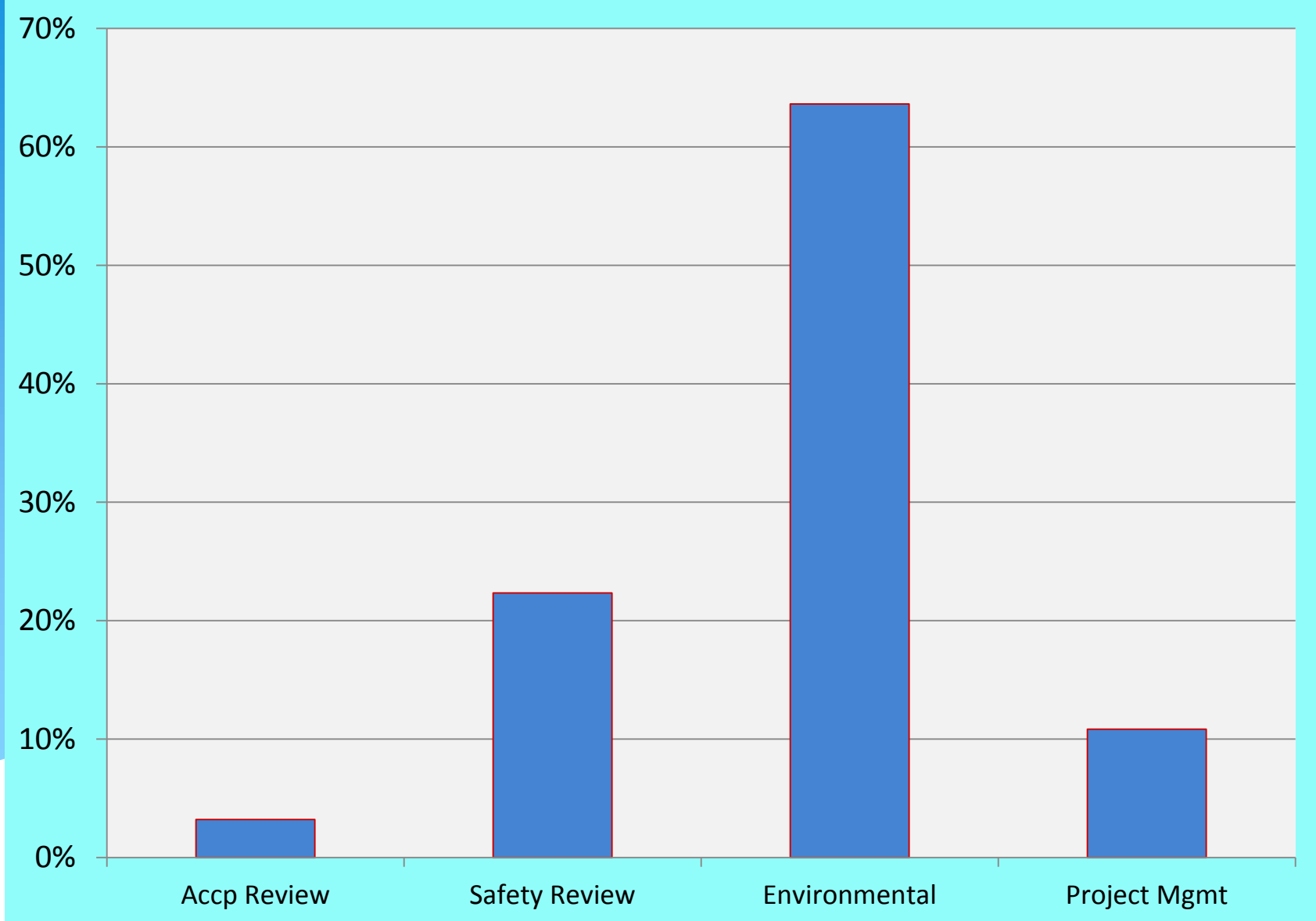
COMPARISON OF COST & SCHEDULE: GENERIC vs AUC



COMPARISON OF CUMULATIVE PAYMENTS: GENERIC vs AUC



DISTRIBUTION OF NRC FEES BY ACTIVITY



CONCLUSIONS

- Environmental, NOT Safety, drives the NRC licensing bus.
- Substance takes a back seat to process or procedure—EIS/106.
- Effort (read time & cost) is not driven by the environmental realities, but by the procedures.
- Day to day decision-making is not risk-informed, but risk averse.

SO, HOW ARE WE DOING?

Not so well. WHY?

- Internal NRC issues
 - Apparent lack of project staff/allocations
 - Management turnover
 - Insufficient OGC staff
- Section 106 has a life of its own
 - Early initiation has no real impact
 - Site realities do not affect speed of decision-making
- The priority system: understood but blind
 - Existing licensees get first priority
 - Staff and management effort bears no relationship to project risk
- Raising the bar: every applicant gets more intensive review, regardless of risk
- Pre-operational activities are pushed to pre-license (especially Radon)
- Risk-informed has become Risk-Averse
 - Without real Risk-Assessment
 - Review performance bears no relationship to risk, complexity, or other factors
- Hearings contaminate everyone—without regard to site specific conditions or common sense