UTILITY VEGETATION MANAGEMENT: BEST MANAGEMENT PRACTICES AND WHY

MUNICIPAL ELECTRIC POWER ASSOCIATION OF VIRGINIA

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RANGE & BEARING, LLC

4 PILLARS OF POWER
‘THE WHY’

SAFETY – **P**EOPLE WORKING & PUBLIC

RELIABILITY – **P**OWER OUR COMMUNITIES & LIVES

EFFICIENCY – **P**ROFICIENT USE OF RESOURCES

ENVIRONMENT – **P**LANET OUR HOME

RANGE & BEARING, LLC

PROGRAM MATURITY LEVELS & CHARACTERISTICS

LOW MATURITY,
LOW BENEFITS

HIGH MATURITY,
HIGH BENEFITS

1. COMPLIANCE

2. INDUSTRY BMP'S / PRACTICES

3. INDUSTRY LEADING

ROW RANGE & BEARING, LLC

COMPLIANCE

SAFETY

- **OSHA, ANSI**
  - Minimum Approach Distances
  - Hazards & Mitigations
- **NATIONAL ELECTRIC SAFETY CODE**
  - Clearances
  - Grounding
- **WILDFIRE**
- **EASEMENT RIGHTS**

RELIABILITY

- FERC/NERC
- NATIONAL ELECTRIC SAFETY CODE
  - Clearances
- STATE AND LOCAL CODES
  - Virginia Uniform Statewide Building Code (USBC) — Chapter 27 (Electrical
  - Virginia Electric Utility Regulation Act, with the National Electrical Code (NFPA 70)
  - Hazard trees
  - Wildfire
- ANSI A300
  - Utility Pruning of Trees
- EASEMENT RIGHTS

COMPLIANCE

EFFICIENCY

- **FEDERAL & STATE**
  - **FED – FERC**
  - **STATE – SCC**
- **LOCAL**
  - **MUNICIPAL GOVERNMENT**
  - **LABOR UNION**

ENVIRONMENT

- **FEDERAL & STATE**
  - **FED – EPA, ESA, MBA, BGEA, WOTUS, EPA, DOE**
  - **STATE – DEQ, DWR, PUC**
- **LOCAL**
  - **COUNTY & MUNICPALITY CODES/ORDINANCES**
  - **PLANNING/PERMITTING**

INDUSTRY ACCEPTED AND BEST PRACTICES

SAFETY

- RTRP
- UTILITY P&P'S + SPECS, SAFETY STANDARDS FOR CONTRACTS
- NEAR MISS REPORTING

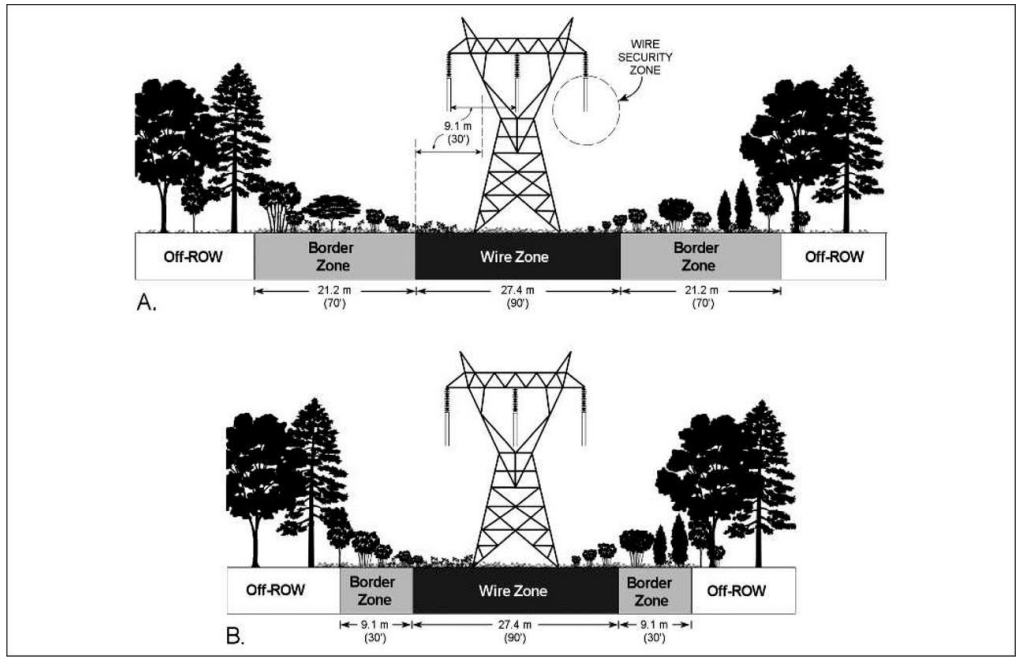
RELIABILITY

- RTRP
- ANSI A300 UTILITY PRUNING OF TREES
- ANSI A300 IVM
- ANSI A300 TREE RISK ASSESSMENT
- HAZARD TREE/OFF ROW PROGRAM
- REMOTE SENSING

INDUSTRY ACCEPTED AND BEST PRACTICES

EFFICIENCY

- **RTRP**
- **WZ/BZ**
- **IVM BASED PROGRAM**
- **LANDOWNER RELATIONS**
- **LONG TERM ANNUAL PLAN(S) , CONTRACTS**



ENVIRONMENT

- **RTRP**
- **IVM**
- **HERBICIDE CCC**
- **PUBLIC EDUCATION & STAKEHOLDER ENGAGEMENT**

INDUSTRY LEADING

SAFETY

- CONTRACTOR SAFETY FORUM
- CROSS DEPARTMENT COMMS
- WILDFIRE RISK REDUCTION

RELIABILITY

- PRIORITY / CONDITION BASED WORK PLANS
- RECORDKEEPING

INDUSTRY LEADING

EFFICIENCY

- TOOLS EQUIPMENT AND TECHNOLOGY
- CONTINUOUS IMPROVEMENT EVALUATIONS OF PROGRAM, PLANS, STRATEGIES

ENVIRONMENT

- R&D
- SITE SPECIFICITY
- STEWARDSHIP TRAINING
- STAKEHOLDER ENGAGEMENT
- VOLUNTARY HABITAT MANAGEMENT PLANS

UVM PROGRAM MATURITY

AS PROGRAM MATURITY INCREASES, SO DO COST- BENEFITS RATIOS

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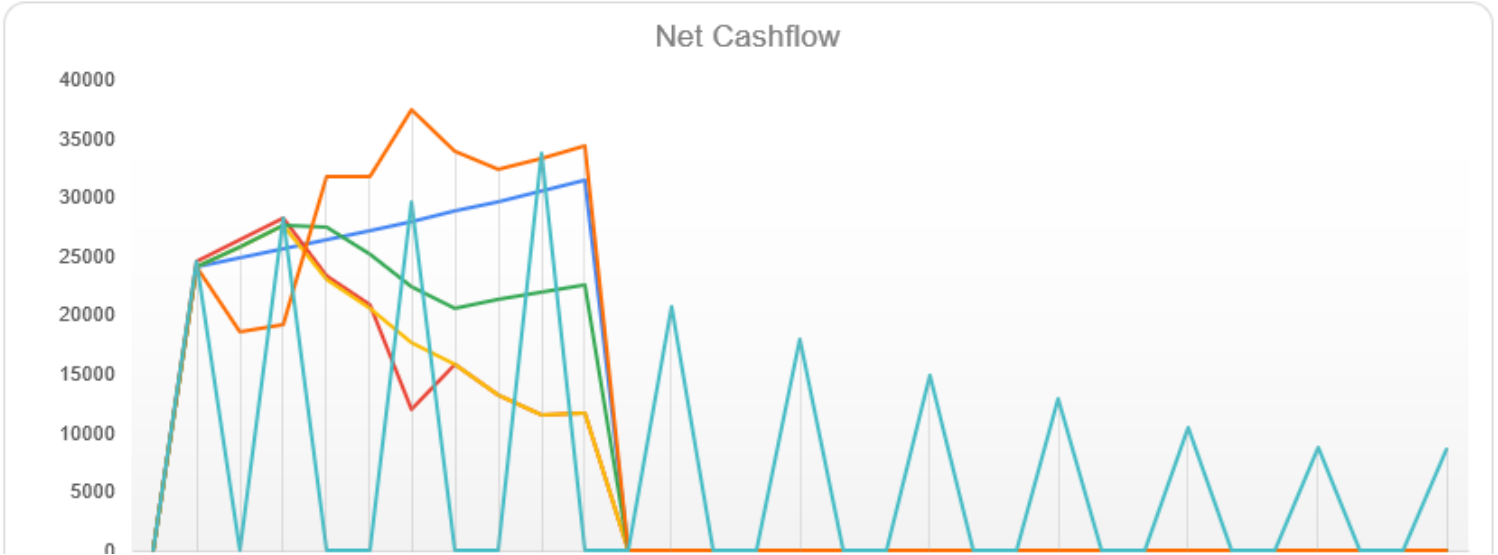
PROGRAM MATURITY DRIVES COSTS UP OR DOWN

- ACCURATE, EFFICIENTLY TIMED WORK PLANS
- SPECIES – LOCATION SPECIFIC FOR LOWEST COST TREATMENTS
- CONTRACTS MANAGED FOR HIGH PERFORMING, HIGH VALUE CREWS
- MINIMAL INDIRECT COSTS

ROW Vegetation Management Approaches: Comparing Maintenance Budget Alternatives

Discount Rate:	10.0%
Inflation:	3.0%
Study Period:	10

		10 Year Total Costs NPV (thousands)	10 Year Total Costs Undiscounted	10 Year NPV of Change (thousands)	Payback Year	B/C Ratio	ROI
Status Quo:	No programmatic IVM/herbicide use, corridor reclamation needed	$ 166,063.43	$ 276,554.62	n/a	n/a	n/a	n/a
	Alternatives						
1.	Reclaim, IVM, capitalize half of reclamation, followed by IVM using herbicide as much as possible	$ 124,874.33	$ 187,941.96	$ 41,189.11	5	21.15	20.15
2.	Capitalize all of Reclamation, followed by full IVM using herbicide as much as able	$ 126,506.23	$ 191,638.32	$ 39,557.21	4	20.23	20.23
3.	Reclaim, no IVM or change in policy, reclaimation capitalized, now mow more floor, maybe trim fewer trees, lose savings back into higher mowing vs. IV in which using spray and lose most of the cost thru lower mowing trimming and removals costs	$ 149,694.54	$ 239,204.39	$ 16,368.89	6	8.34	7.34
4.	Budget is cut in year 2 and 3 ; maintenance is deferred to future years	$ 174,324.66	$ 297,124.40	$ (8,261.23)	2	-94.50	-95.50
5.	30 year budget	$ 169,321.73	$ 169,321.73	$ 73,800.72	2	39.06	38.06



REFERENCES & RESOURCES

- SAFETY
  - OSHA
  - ANSI Z133
  - TCIA
  - ISA
  - UAA
- RELIABILITY
  - FERC/NERC
  - NESC
  - PUD/PSC
  - ANSI A300
  - UAA
  - EEI
- EFFICIENCY
  - UAA White Papers
  - R&D Publications
- ENVIRONMENTAL STEWARDSHIP
  - UAA ROWSC
  - UIC ROW AS HABITAT WORKING GROUP
- BENCHMARKING STUDIES
  - UAA-BLOOM SPATI
  - AI-DASH
  - T&D WORLD

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EXAMPLE PROGRAM MATURITY MODELS

- EPRI
- CEATI
- UAA
- WRR
- CEWD
- NATF

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THANK YOU!

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