

Public Perspectives on Fuel Facility Oversight Process Revisions

April 29, 2010

**Linda Cataldo Modica
Chair-Fuel Facilities Working Group
Nuclear Issues Activist Team**



Sierra Club is largest grassroots public-interest environmental group

Sierra's concerns are the same as the public's -- the wholesomeness of

- the air we breathe,
- the water we drink, and
- the land on which we raise our food

Sierra Club stands with labor & community groups working for safe, healthy communities

- Blue/Green Alliance works for good jobs, a clean environment & a safer world
- Nuclear Issues Activist Team serves Sierra entities & community groups like Erwin Citizens Awareness Network

Sierra is encouraged by Chairman Jaczko's public statements

- 07July09: "A Fuel Facility Oversight Process or even a more comprehensive Materials Oversight Process would allow us to improve the openness and transparency of radioactive materials safety and security. In addition, we need further development of regulatory infrastructure in the area of materials security."
- **18Dec09: "Safety culture is not a simple issue, but it is vital to the NRC's mission of protecting the public's health and safety".**
- 11Jan10: "Our mission of ensuring public health and safety and protecting the environment is best served by promoting public participation, providing high-quality and timely information, making decisions in a transparent manner, and building accountability into everything we do".

Part II: The view of fuel facility oversight revisions from Atomic Appalachia

- **Aerojet Ordnance** - Jonesborough, TN: manufactures depleted uranium weapons
- **Nuclear Fuel Services** - Erwin, TN: down-blends HEU to LEU for TVA reactor fuel; manufactures Naval reactor fuel
- **Studsvik** - Erwin, TN: processes & “volume reduces” nuclear waste

**While also heartened by
Chairman Jaczko's leadership,**

- Public still greatly concerned that licensing & enforcement decisions are "stovepiped" -- revealing disconnects between NRC divisions
- Letters to the Editor (LTEs) can be useful measures of public opinion

Samples of recent LTE headlines in Erwin-area papers

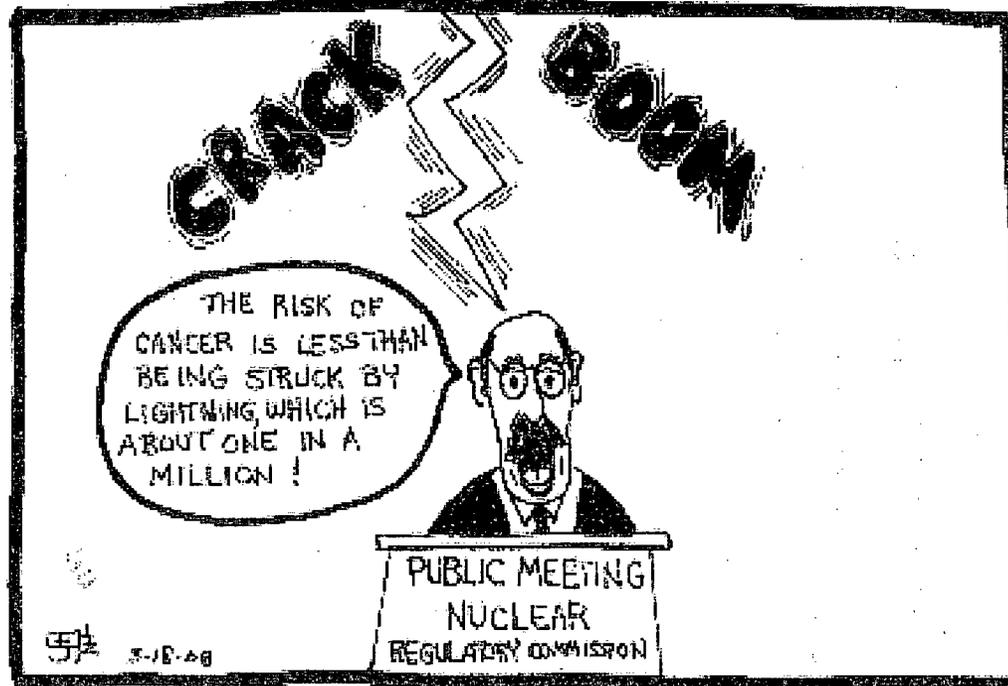
- “Dangerous exposure”
- “NRC didn’t live up to promise”
- “NFS, Nuclear Regulatory Commission don’t understand disclosure”
- “Security doesn’t come in hiding info from those an accident might affect”
- “Putting 42 chemicals into river isn’t polluting?”

Editorial cartoons also reflect public opinion

- Provide insight into public's perception of NRC regulation
- Introduce distinguished, new Commissioners to problems in "Atomic Appalachia"

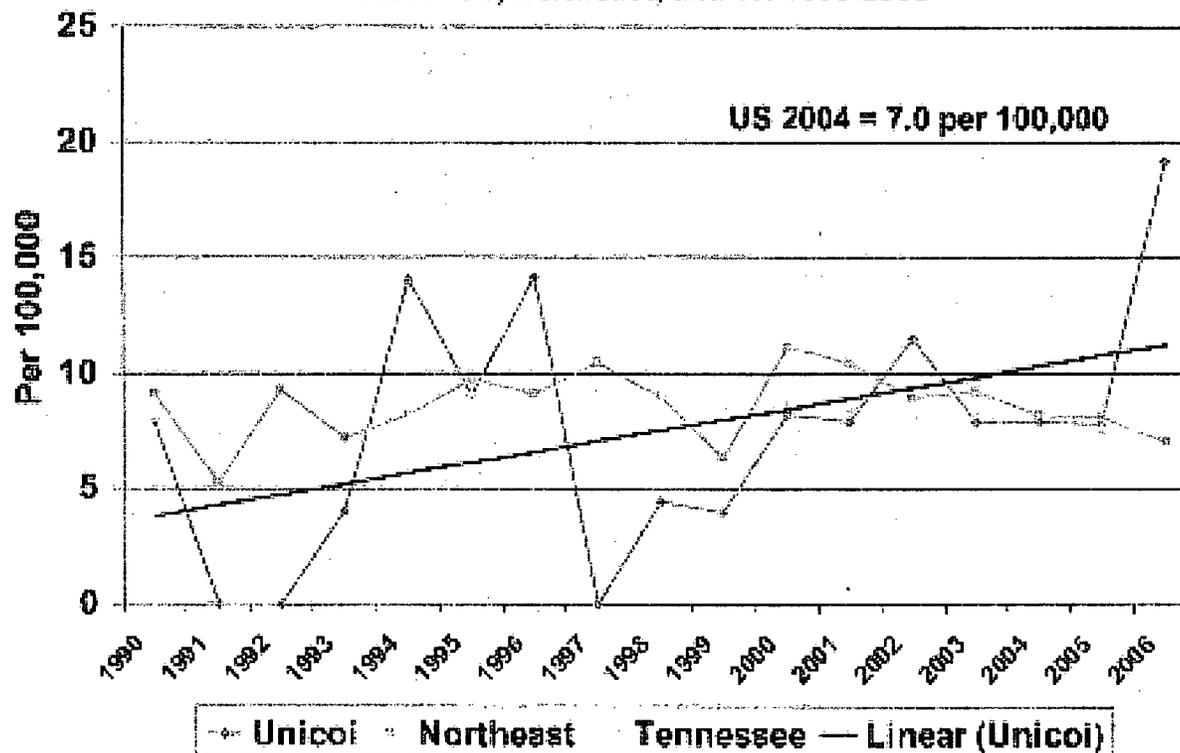
Public's primary concern is for their health, especially cancer prevention

ON THE DRAWING BOARD with Charles E. Holt, Jr.



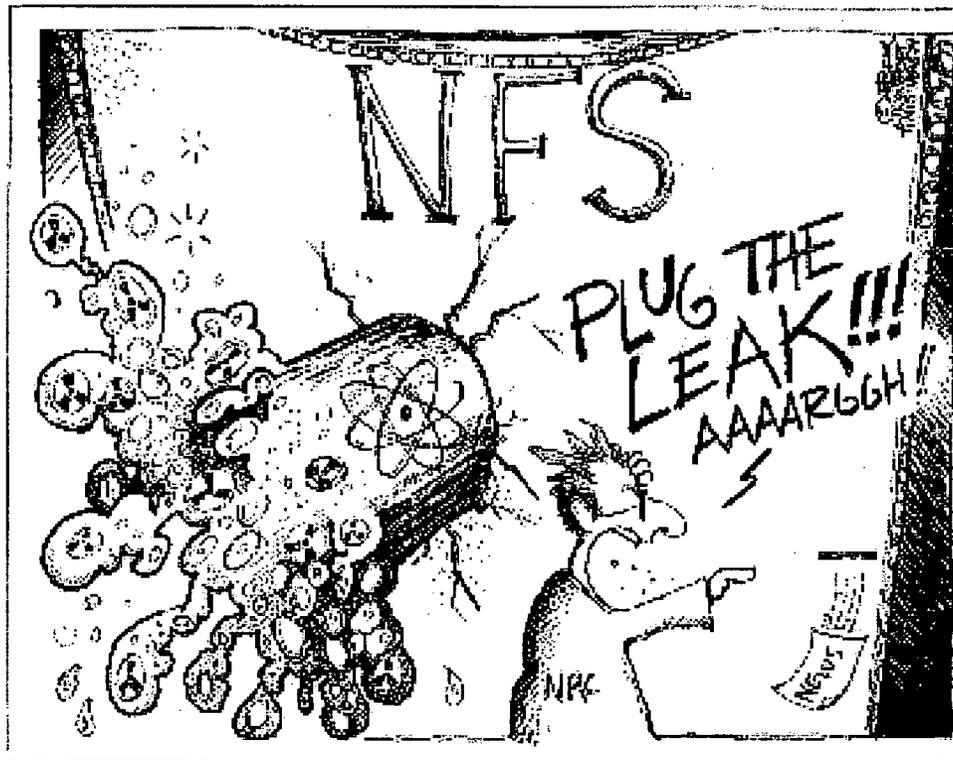
We see cancer deaths rising

Age-Adjusted Non-Hodgkin's Lymphoma Cancer Death Rates per 100,000, All Races, All Ages, Both Sexes
Unicoi Co, Northeast, and TN 1990-2006



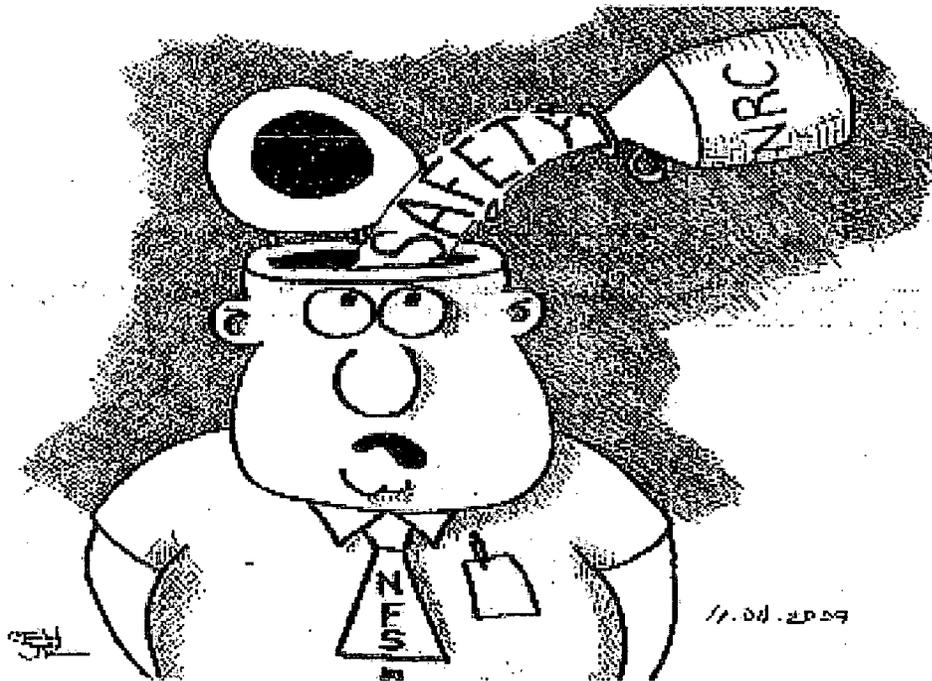
Age Adjusted using Six 2006 Standard Population (2003 Estimate: Medical)
Source: Death Certificate Data (Tennessee Resident Data) Tennessee Department of Health

**Public expects “tension” between
NRC & licensees, but perceives
accommodation instead**



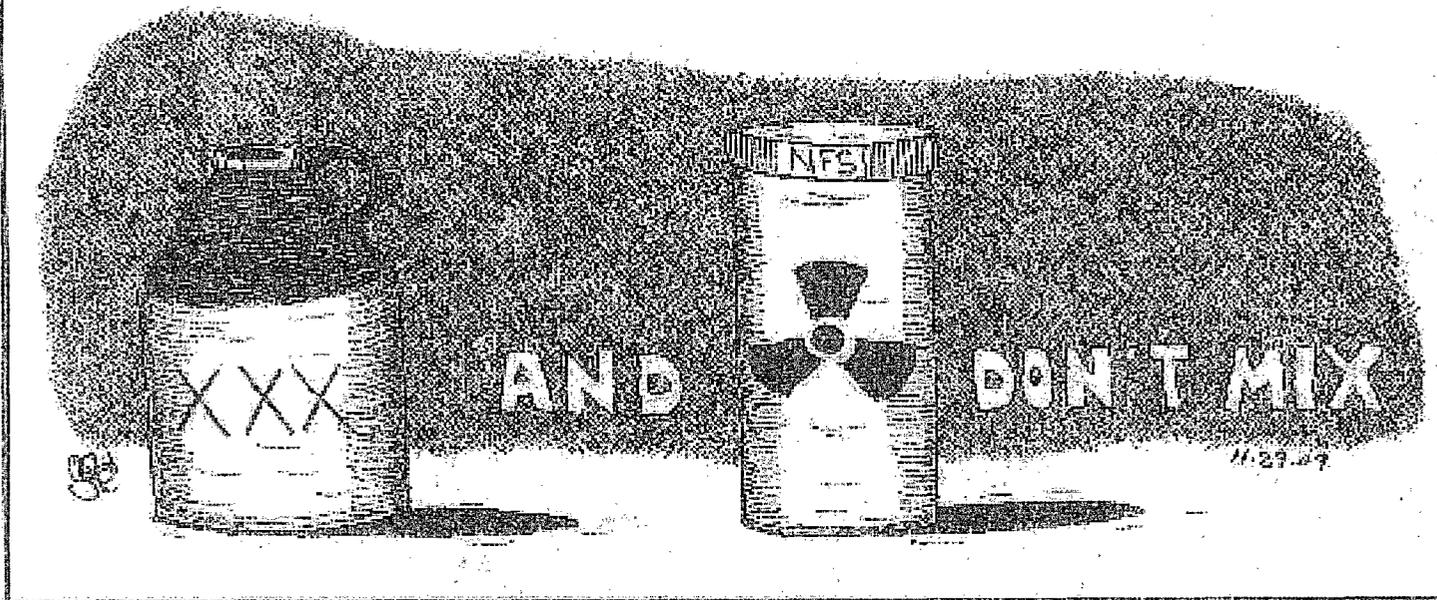
The public recognizes that NRC is trying to regulate for safety

ON THE DRAWING BOARD with Charles E. Holt, Jr.



But RII enforcement actions seem ineffective for serially non-compliant licensees

ON THE DRAWING BOARD with Charles E. Holt Jr.



Part III: A fresh approach focused on safety culture

- Public expects a culture of safety in companies handling hazardous chemicals and fissile materials in their towns
- Public expects NRC to promptly, strictly & effectively enforce safety regulations

Proximity of the public to licensee matters

- NEI: “a criticality...can happen here”
- DOE: “The largest calculated MEOI dose from down-blending activities would ... occur at NFS primarily due to the much closer proximity of the MEOI”

Background radiation matters

Where the public is subjected to high background radiation due to elevation & geology, will the new regs require fuel facilities to eliminate man-made exposures?

Not one ounce lost

- The public expects licensees to protect their families' safety and our country's security
- As Joseph Cirincione said on NPR, "We have never lost an ounce of gold from Fort Knox. We shouldn't lose an ounce of enriched uranium"

Not one offsite body trespassed

- By radiation exposures
- By chemical exposures
- By exposures to mixtures of radioactive & chemical toxins which could have compounding adverse health impacts

Not one radioactive chemical cocktail poured

“Because the contaminants present in the groundwater are a mixture of many volatile organic compounds, health effects of mixtures may be an issue”.

Source: ATSDR, Public Health Assessment for NFS, 29May07,
p.25

Why not zero ...

- Occupational oral ingestion?
- Occupational inhalation?
- Effluent concentrations in air?
- Effluent concentrations in water?
- Releases to sewers?
- Inventory differences for SNM?

Sierra Club thanks Chairman Jaczko & distinguished Commissioners

- For acknowledging public concerns
- For considering Sierra Club views, &
- For working for elimination of chemical and radiation exposures to workers & public from nuclear fuel facilities



**FUEL CYCLE INDUSTRY
VIEWS ON AN ENHANCED
NRC OVERSIGHT PROGRAM**

April 29, 2010

**Nuclear Energy Institute
and Facility Representatives**

Presentation Outline

- Opening Remarks
- Diverse Fuel Facilities Description
- Our Common Goals for Enhanced Oversight Process
- Tenets of Enhanced Oversight Process
- Path Forward
- Concluding Remarks

Opening Remarks

- Facilities are operating safely and protecting public health and safety
- Opportunities exist to improve NRC oversight program, but not broken
- Our mutual goals are increased transparency, predictability, objectivity, and increased use of risk information
- Industry will continue to work with NRC

Diverse Fuel Facilities

- Operate and licensed differently under Parts 40, 70 and 76
- Operations and processes vary widely, e.g., Categories I and III under Part 70
- Risk profile very different from reactors
- Diversity of regulatory resources, e.g., resident inspectors at 3 facilities – placement criteria not transparent

Enhanced Program Goals

- Improve existing adequate program
- Increased transparency, predictability, and objectivity and use of risk information
- Maximize use of reported data and information, e.g., Integrated Safety Analysis and other analyses
- Risk prioritize respective resources

Tenets of Enhanced Oversight

- Performance deficiency definition
- Significance Determination Process
- Performance Indicators not necessary
- Risk scale equity vs. commercial reactors
- Feedback mechanism drives resources
- NRC infrastructure supports performance-based inspections
- Enforcement policy should reflect risk

Path Forward

- Prioritize this effort with other NRC regulatory initiatives, e.g., Part 70 working group products among others
- Detailed project plan with resources loaded must be supportable by NRC and industry
- Consider developing success criteria

Concluding Remarks

- Prioritize initiative and effectively engage industry and stakeholders
- Diversify facilities with available risk information & data to inform process
- Safety is industry's highest priority
- Industry will continue to work with NRC

BACKUP SLIDES

Diverse Fuel Facilities

Part 70 Facilities		
AREVA NP – Lynchburg	Fuel Fab	Cat III
AREVA NP – Richland	Fuel Fab	Cat III
AREVA – Eagle Rock	Enrichment	
B&W – Lynchburg	Fuel	Cat I
GEH – Global Nuclear Fuel	Fuel Fab	Cat III
GEH – Global Laser Enrichment	Enrichment	
LES – National Enrichment Facility	Enrichment	
NFS – Erwin	Fuel Fab	Cat III
NFS – Erwin	Fuel	Cat I
Shaw, AREVA, MOX Services	Fuel	Cat I
USEC – American Centrifuge	Enrichment	
Westinghouse – Columbia	Fuel Fab	Cat III
Part 76 Facilities		
USEC – Paducah	Enrichment	
USEC – Portsmouth	Enrichment	
Part 40 Facilities		
Honeywell – Metropolis	UF6 Production	
International Isotopes – Hobbs, NM	De-Conversion	

Current Regulatory Initiatives Requiring Industry Support

HIGH Priority:

- Part 70, Appendix A, Petition for Rulemaking
- Part 70, App A, ISG – Reportable Events
- Part 70.72, DG-3037 – Facility Change Process
- Chemical Dermal Exposure Standards
- Design Features and Bounding Assumptions
- Draft NUREG 1520

Current Regulatory Initiatives Requiring Industry Support (cont'd)

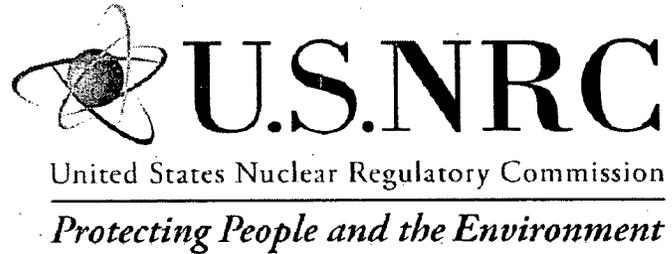
MEDIUM Priority:

- Digital Instrumentation & Control ISG
- Soluble Uranium Intake Draft Guidance
- Safety Culture Policy and its implementation
- Draft Inspection Procedure on SGI Rule
- Implementation of Part 73 Weapons Rule
- Chemical Security Gap Analysis & Site Visits

Current Regulatory Initiatives Requiring Industry Support (cont'd)

LOW Priority:

- DG-3038 - SRP for Pu Processing Plants
- DG-8039 - EDE for External Exposures
- DG-8032 - Planned Special Exposures
- DG-4017 - Monitoring/Reporting Effluents
- DG-3040 - Embankment Systems at FCFs
- DG-8040 - HP Surveys at FCFs
- DG-8036 - Use of Personnel Dosimeters



Revisions to the Fuel Cycle Oversight Process

**Presentation to the Commission
April 29, 2010**

Agenda

- **Current Process–
Joe Shea
Director DFFI, Region II**
- **Proposed Revisions –
Dan Dorman
Director FCSS, NMSS**

Overview of the Current Fuel Cycle Oversight Process

- **Oversight Process Elements**
 - **Inspection**
 - **Enforcement**
 - **Assessment**
- **Implementation**

Overview of the Current Fuel Cycle Oversight Process (Cont.)

- **Current program is adequate to ensure safety and security**
- **Current program is evolving, slowly, within existing framework**
- **Approach to improvements can be better focused, more effective and efficient**

Purpose of Oversight Revision Project

- **To improve program effectiveness and efficiency**
- **To make the process more**
 - **Risk-Informed**
 - **Performance-Based**
 - **Predictable**
 - **Transparent**

Risk Informed & Performance Based– Current Program

- **Inspection**
 - **Use of Integrated Safety Analyses (ISA) during inspection planning improves risk focus**
 - **Programmatic approach still used in some areas**
- **Enforcement**
 - **Proposed policy is more ISA-informed**

Risk Informed & Performance Based– Current Program

- **Assessment**
 - **Process allows for integration of enforcement actions**
 - **Some consideration of risk**

Predictability – Current Program

- **Inspection**
 - **Reactive and initiative inspection decisions lack clear thresholds**
- **Enforcement**
 - **Variability in ISA methods presents a challenge**

Predictability – Current Program

- **Assessment**
 - **Relationship between NRC inspection effort, assessment periodicity, and enforcement history is not well defined**
 - **Assessment process lacks thresholds for specific licensee and NRC actions**

Transparency – Current Program

- **Inspection**

- **Inspection and enforcement results are generally publicly available**
- **Use of webpage to present process and outcomes can be improved**

- **Enforcement**

- **Consideration of risk escalators and mitigators not transparent**

Proposed Plan

- **Oversight Framework**
- **Risk-Informed Baseline**
- **Significance Determination**
- **Performance Assessment**
- **Enforcement**

Schedule of Activities

- **Technical Basis Development**
- **Process Development**
- **Transition**
- **Stakeholder Engagement**

Technical Basis for Risk- Informing

- **Use existing ISA's**
- **Screening tool for items of very low safety significance**
- **Significance determination flow-charts**
- **Validation**
- **Facilities without ISA's**

Definition of Risk Thresholds

- **Two Options Evaluated**
 - **Qualitative**
 - **Quantitative**
- **Recommendation is for the qualitative**

Risk-Informing

- **Baseline Inspections**
- **Significance Determination Process**
- **Enforcement Policy**
- **Action Matrix**

Challenges

- **Diversity of operation and activities among licensees and certificate holders**
- **Cumulative impacts**
- **Performance Deficiency definition**
- **Corrective Action Program inspection**

Potential Policy Issues

- **Deferral of Performance Indicator development**
- **Risk Surrogates and Thresholds**
- **Incorporation of Safety Culture**
- **Performance Deficiency**
- **Security/Safety program interface**

Alternative Approaches

- **Proposal aligned to ROP principles**
- **Other options include:**
 - **Maintain current approach with evolving processes**
 - **Modest enhancements to current process**
 - **Phased revision over longer period**

Conclusion

- **Current process is adequate but needs to be improved**
- **Proposed improvements would use existing ISA's**
- **Proposed implementation in 2014**
- **Staff awaits Commission direction**