## Inflation and Escalation

Handle with Care



### Transformation in Inflation/Escalation Practices



DoD is changing the way we handle Inflation and Escalation in Cost Modeling

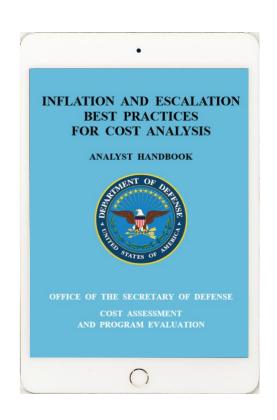
Is your cost model set up adequately to identify and handle all the components of inflation and escalation correctly?

#### OSD CAPE Inflation and Escalation Guidance

#### In December 2021, OSD CAPE published updated guidance on inflation and escalation practices

#### **CAPE Goals**

- ✓ Account for differences between inflation and escalation
- ✓ Adopt consistent terminology
- ✓ Use realistic escalation rates to estimate costs in Then-Year dollars
- ✓ Make long-term assumptions about fuel prices, military pay, others rates that balance realism
  and stability of estimates
- ✓ Normalize inputs appropriately for use in cost estimate calculations
- ✓ Use Then Year and Constant Year dollars for external budgeting and decision making reports
- Document and label all indices used



These guidelines go beyond OSD: they are cost estimation best practices

### **Empowering Analysts to Adopt New Practices**

#### **ACEIT 8.2** is designed and developed to...

Adopt new terminology: update cost types throughout suite

Guide transition: automate existing model transition to new terminology and document updates

Label indices clearly: expand capabilities to distinguish between inflation and escalation



Facilitate new cost method data entry: include Constant Year cost types

Enhance reports for all cost types: convert reports to the new terminology

These goals can and should be applied to any model adaptation of the OSD guidelines

### Price Change: Not Just Inflation

#### **Inflation**

Economy-wide price change

#### **Real Price Change\***

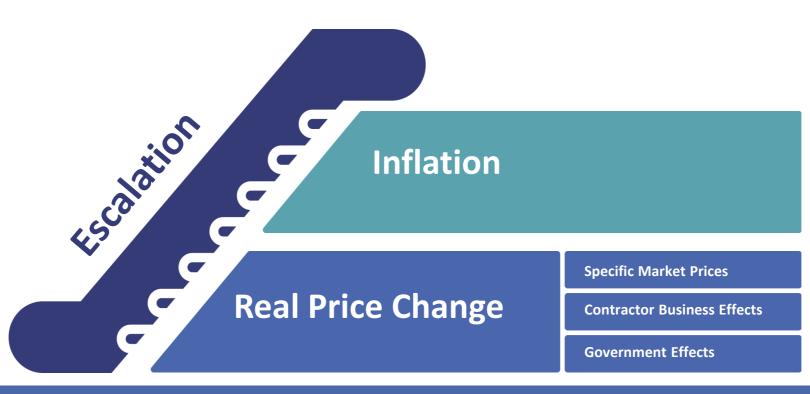
Any price change a commodity experiences not explained by inflation

\*Includes specific market price changes, contractor business effects, government effects

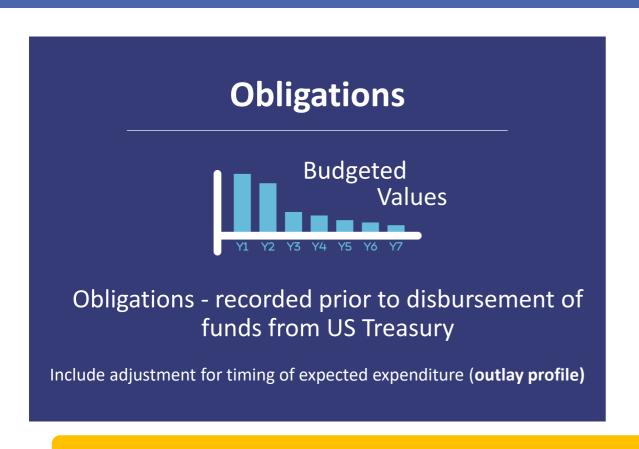
#### **Escalation\***

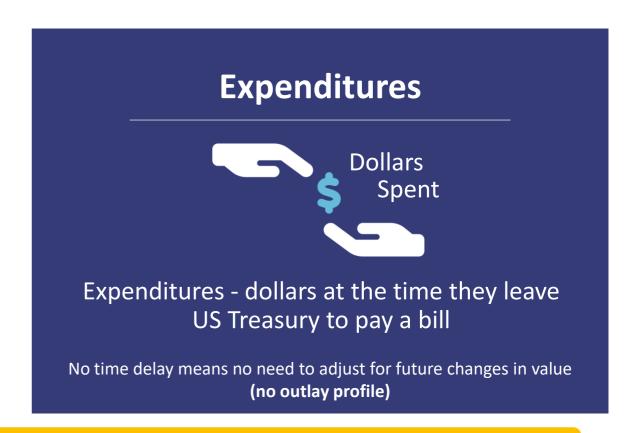
Overall price change to specific commodity

\*Includes Inflation and Real Price Change



### Focus on Obligations vs Expenditures





#### Important distinction when selecting indices:

Weighted indices incorporate outlay profiles; appropriate for **Obligations** 

Raw indices do not incorporate outlay profiles; appropriate for **Expenditures** 

### New Cost Types for Improved Clarity

#### **Constant Year (CY\$)**

Impacts of real price change included, but not inflation

Often called "real dollars" outside DoD

#### **Constant Price (CP\$)**

Impacts of escalation not included (no inflation or real price change)

Expressed relative to a single normalization year



### Time has run OUT for BASE YEAR dollars



# Constant Price & Constant Year dollars are IN

By replacing Base Year dollars (BY\$) with CP\$ or CY\$ cost estimators can more easily:

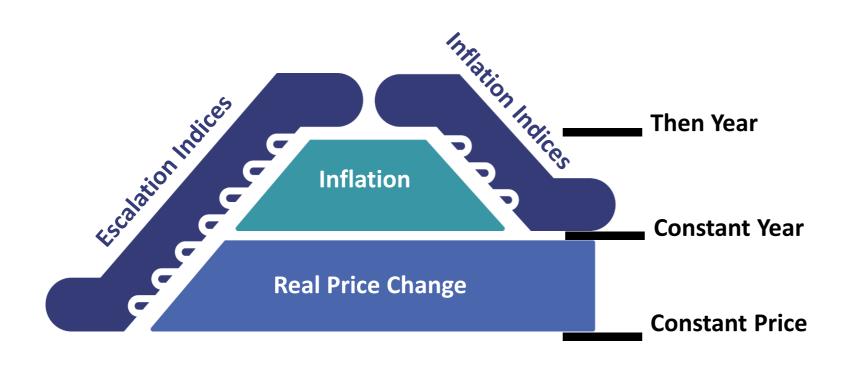
- ✓ Understand if costs include impacts of real price change or not
- ✓ Identify type of index used to produce each value:

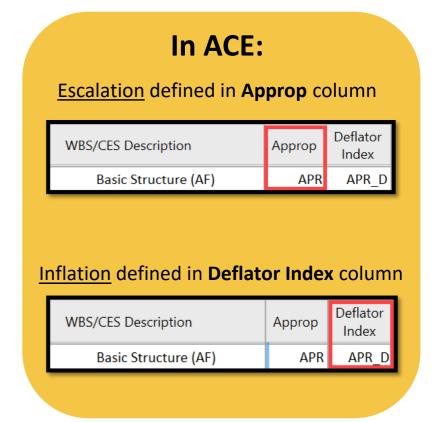
### Escalation and Inflation Index Types

DoD seeks to have well defined escalation and inflation indices

With these two measurements, all three major cost type categories can be calculated

Real Price Change indices not well defined





### New Cost Type Terminology in ACEIT

#### **Constant Price**

Normalized to remove the effects of escalation and any outlay profile

ACEIT 8.1 term: Base Year (BY) dollars

#### **Then Year Obligations**

Contain effects of Escalation and outlay profiles

ACEIT 8.1 term: Then Year (TY) dollars

#### **Constant Year Obligations**

CYO Contain effects of Real Price Change and outlay profiles

ACEIT 8.1 term: Reportable BY (Results only)

#### **Then Year Expenditures**

TYE Contain effects of Escalation but no outlay profiles

ACEIT 8.1 term: Same Year (SY) dollars

#### **Constant Year Expenditures**

CYE Contain effects of Real Price change but no outlay profile

ACEIT 8.1 term: Reportable BY (Results only)

ACEIT 8.2 adopts OSD CAPE Handbook cost terms.

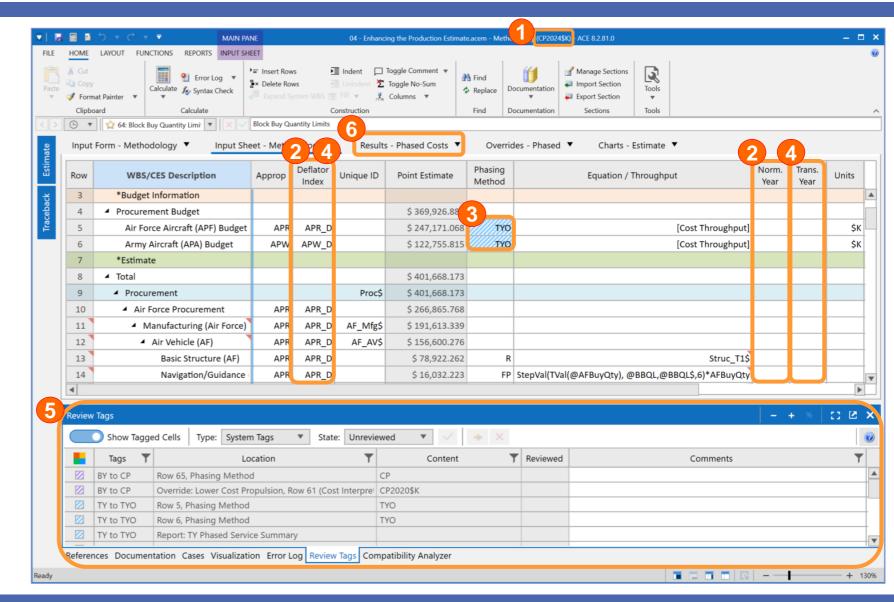
Whatever model you use, it is important to map your old terminology to the new





### Summary of High Profile Updates to ACE

- 1. Session Results in Constant Price
- Renamed "Fiscal Year" Column "Norm. Year"
- 3. Updated Phasing Methods to new cost types
- 4. Support for CY\$ inputs with Deflator Index and Trans. Year
- 5. Review Tags Pane tracks system cost type changes
- 6. Results in new Cost Types



### Lesson Learned: Adopting new Terminology is Essential

New Landscape: To improve clarity the OSD handbook expands from two to five cost

types

For ACEIT we: Changed column fields to align with the handbook

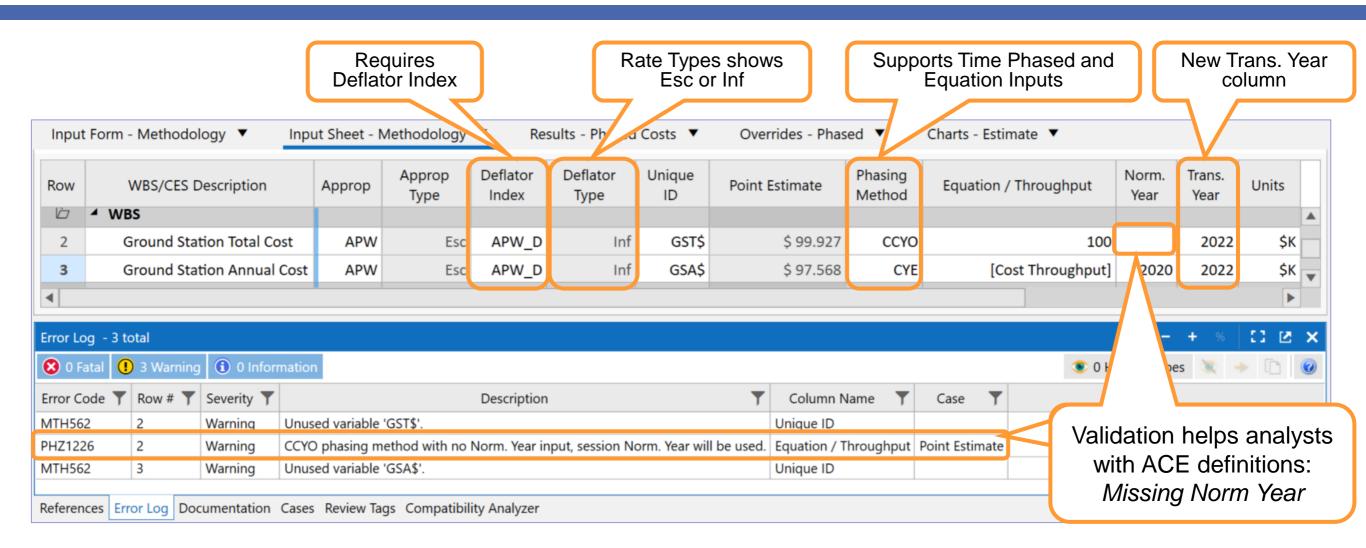
Changed and added new cost types

Added session tracking to identify how sessions are impacted when

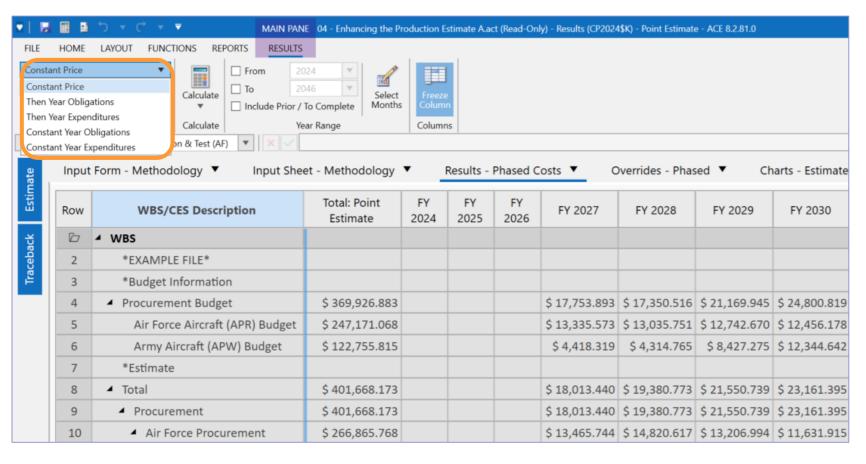
transitioning to ACEIT 8.2

You will get lost in the forest if you don't adopt the terminology

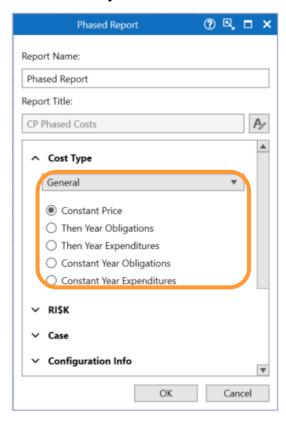
### Support for CY\$ Inputs



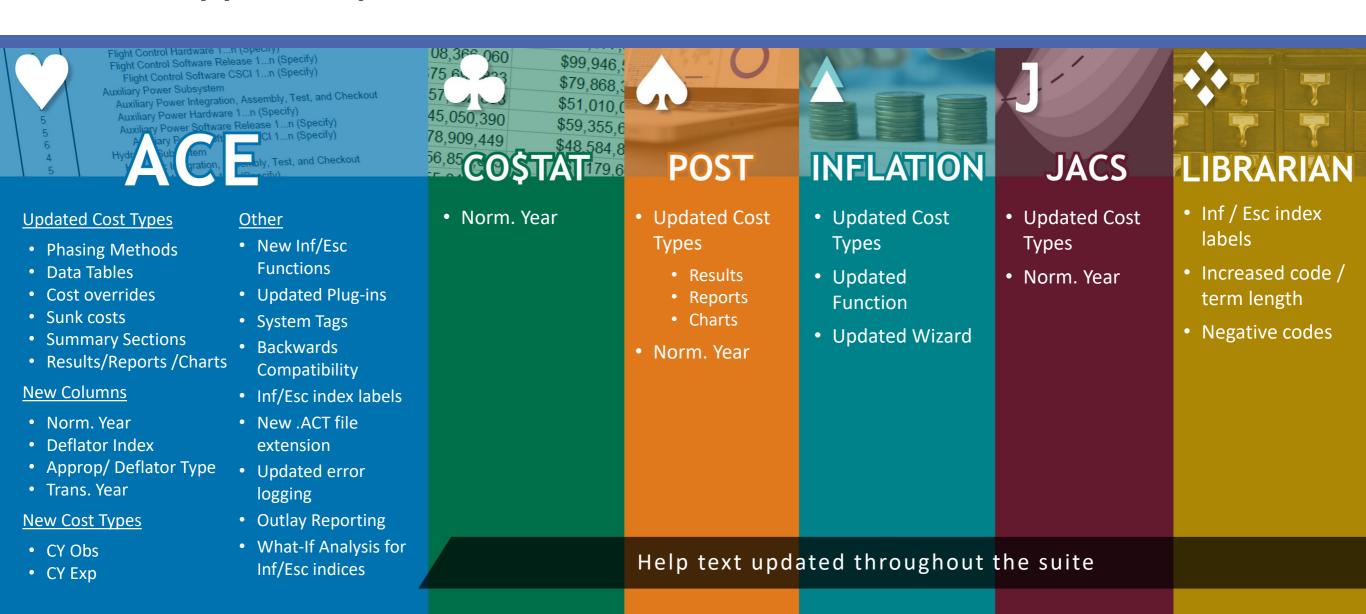
### Results and Reports in All Cost Types



- Clear cost type selection
- Obligations vs. Expenditure options emphasized



### Cost Types Updated Across the ACEIT Suite

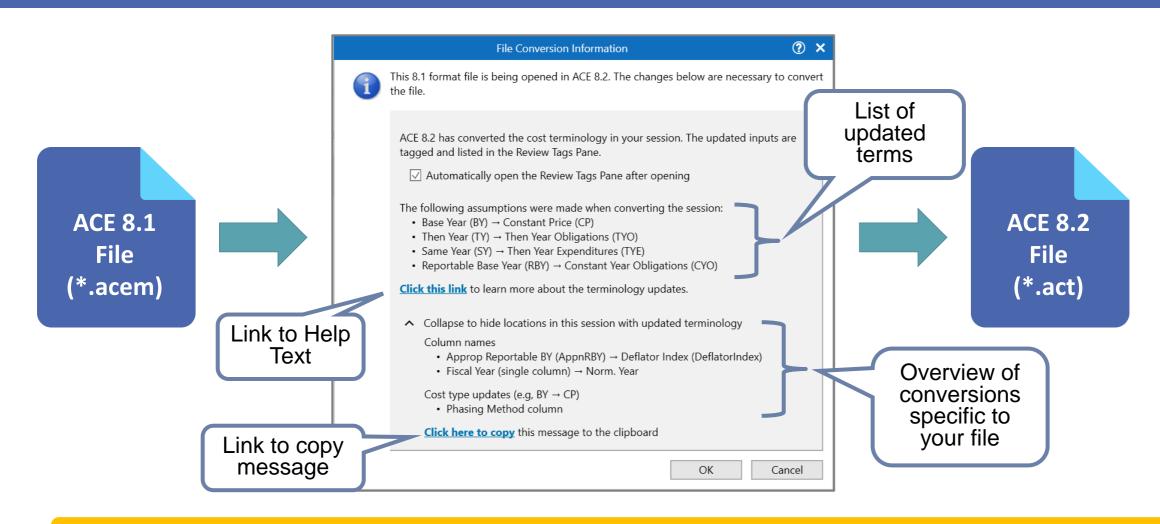




### Lesson Learned: Look for ways to improve Transparency

Analysts and decision makers don't know Pain point: what cost types they are looking at For ACEIT we: Clearly labeled cost types for **Obligations and Expenditures** Inflation and Escalation Added a Transaction Year column to clearly handle Constant Year cost types Updated all ACEIT Applications for continuity on ACE Input and Outputs You have to know what is going on behind the curtain – transparency is necessary

### **Process of Transitioning Files**



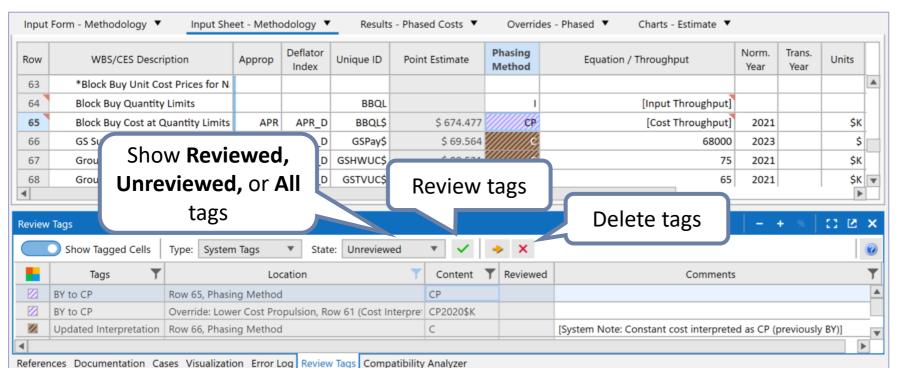
When opening an existing session in ACE 8.2 there is messaging to help the user through the process

### **Analyst Responsibility after Conversion**



ACE 8.2 automatically converts terminology





**Review Tags Pane** lists every change made to the session

Main Pane shows cells with conversions visibly tagged

#### Lesson Learned: Automate but with Flexibility

Challenge: The mapping between the cost types is not exclusive

Analysts have to look at their existing models, understand their cost inputs,

and carefully select the appropriate cost types

Example: BY is not always the same as CP

Vision: Our automation vision was to automate as much as we could but provide a

mechanism to handle deviations

Transition is dependent on analyst interpretation

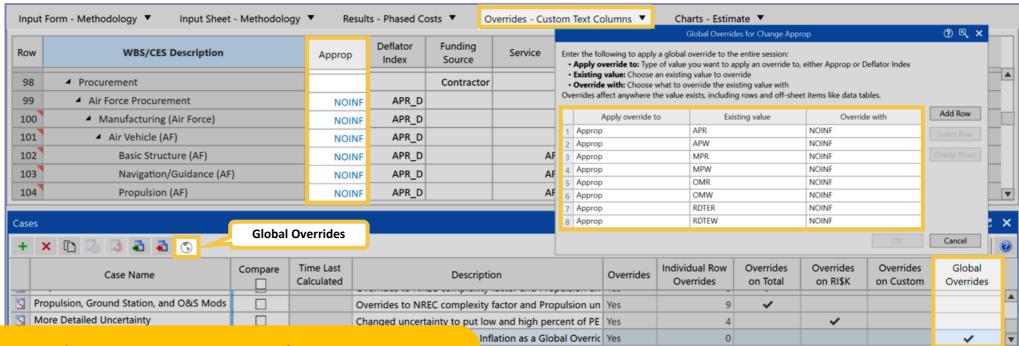
For ACEIT we:

- ✓ Assisted with the model transition to the new terms but we require the analyst to review the changes
- ✓ Introduced more explicit cost types including obligations and expenditure specification

**Beware of Magic Wands** 

#### New Features Added to Support Inflation/Escalation

#### **New Global Case Overrides**



Visible on Overrides – Custom Text Columns

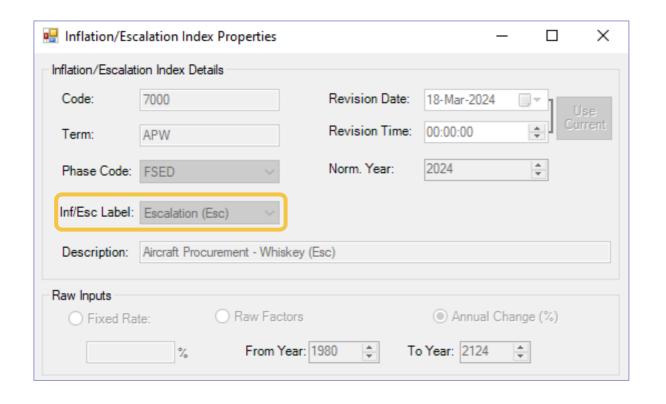
Appears blue, but not bold, to distinguish between global and row-based index overrides

Override an Index throughout the session - includes data tables and functions

### Lesson Learned: Start Planning for the Future

As analyst gain more control over the inflation/escalation details — Innovations: they will be able to explore ideas Our new Global What – If feature allows for examining changing For ACEIT we: index selections across the model and comparing the results of cases Use all the tools available to start looking into the future

### The Software is Updated...What's Next?



ACEIT 8.2 allows you to label indices as Inflation, Escalation, or Other

- ✓ Add labels in the LIBRARIAN ❖
- ✓ View labels in ACE columns and reports
- ✓ Create new indices for inflation or escalation in Librarian Custom Tables
- ✓ Utilize new cost types

**Updated software unlocks functionality.** Now it's up to the community to evolve their indices.

#### **Lesson Learned:** Work Remains

What we are hearing from the community is that analysts want Observation: more specification on published tables We created the plumbing to handle various escalation and inflation For ACEIT we: approaches What work Evolve Indices to better label what they cover remains: Generate new Indices Guide the Munkins with service and commodity specific escalation and inflation indices

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### Conclusion

ACEIT is empowering DoD analysts to transition to new escalation framework

> **Escalation issues properly** conquered in our models...

then this is a day of independence for all the Munchkins and their descendants.



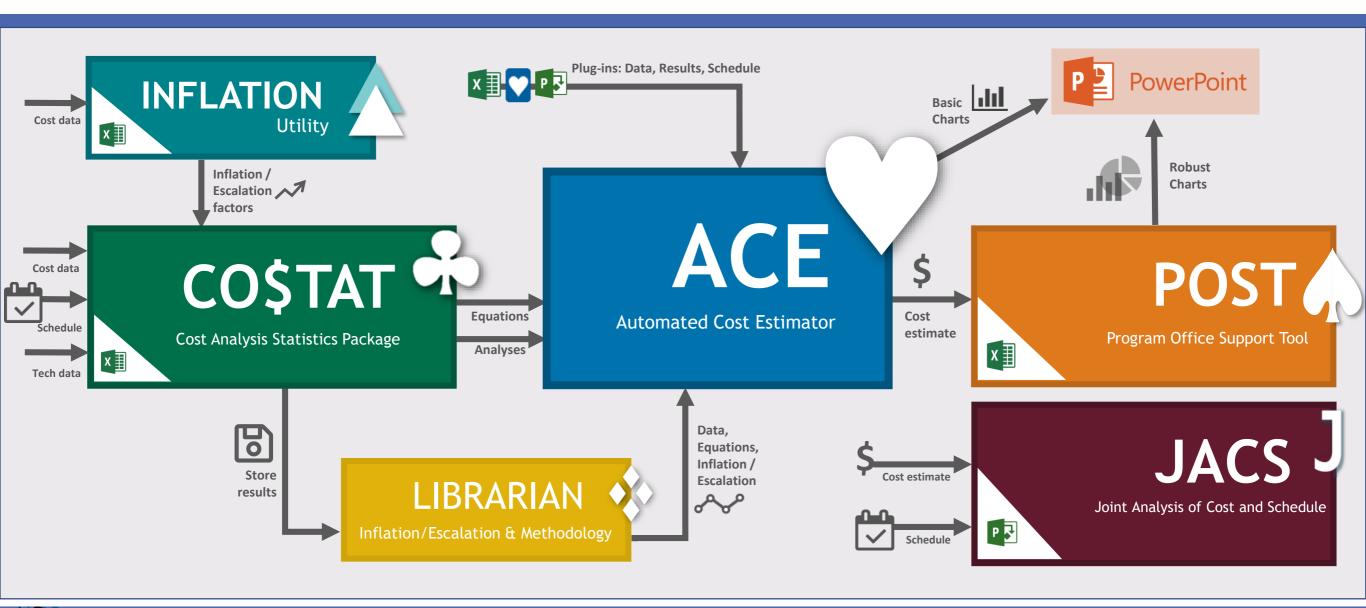
Visit www.ACEIT.com

**Please contact ACEIT Support** 

Email: aceit\_support@tecolote.com

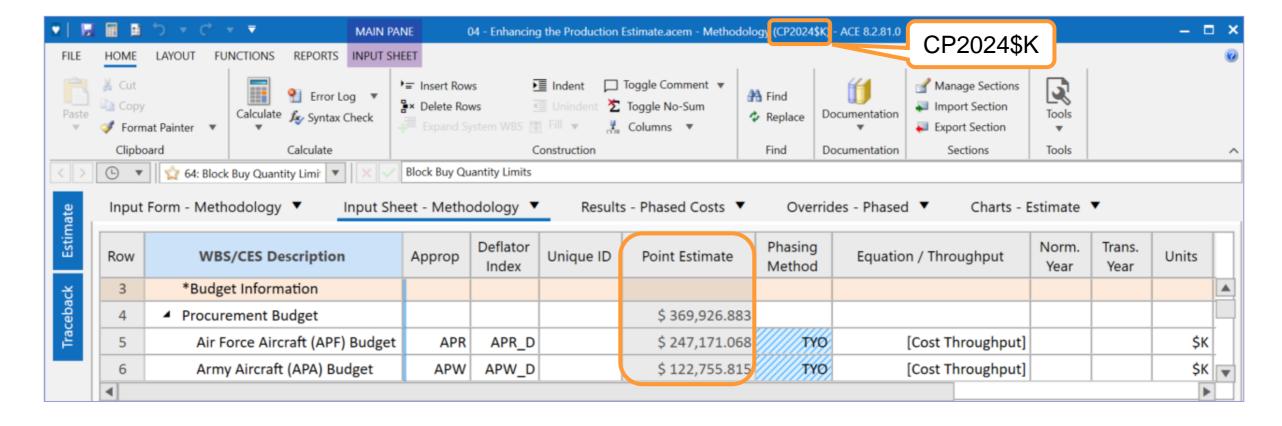


#### **ACEIT 8.2 Architecture**



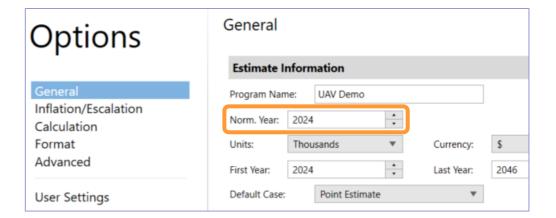
#### Session Results in Constant Price

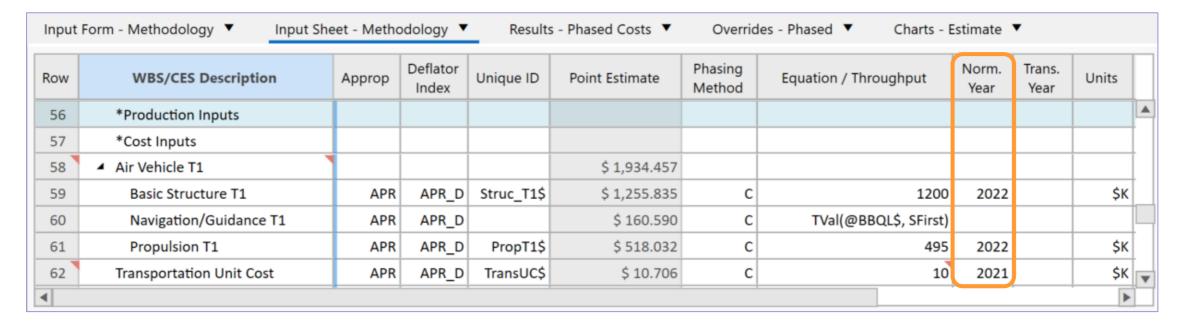
- Constant Price used to understand historical trends, compare costs, develop CERs
- ACE sessions calculated in CP\$ of user-selected Norm. Year



## Renamed Session "Base Year" and "Fiscal Year" Column to "Norm. Year"

- Base Year and Fiscal Year terms were overloaded in ACEIT
- Session base year renamed Norm. Year
- Renamed to Norm. Year as a descriptor year of normalization

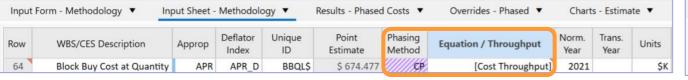




### **Updated Cost Phasing Methods**

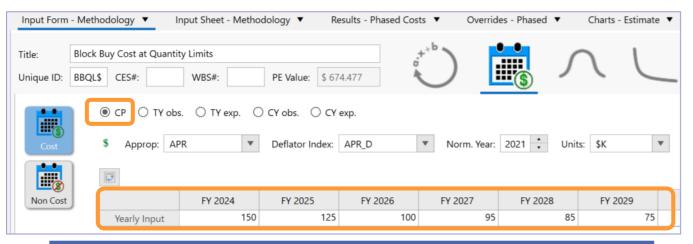
Phasing Methods drive how ACE calculates a row's equation or time phased inputs

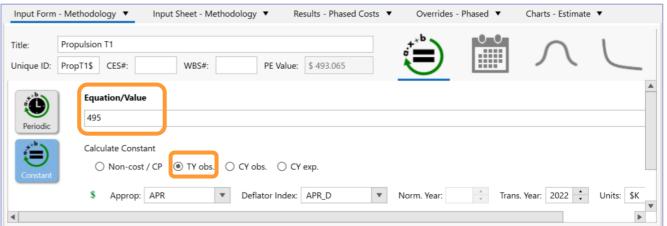
**Time Phased Inputs** 





**Equation/Throughputs** 





#### **Time Phased Cost Phasing Methods**

Yearly/Monthly cost data entered by time period

CP TYO TYE CYO CYE

ACEIT 8.1 terms: BY, TY, SY

#### **Equation/Throughput Cost Phasing Methods**

ACE uses the term "Constant" for non-Time phased methods

C CTYO CCYO CCYE

ACEIT 8.1 terms: **C** and **CTY** 



### **ACEIT 8.2 Training**

Instructors with real-world experience with ACEIT provide hands-on training.







In-person

Self-paced

**Onsite** 



#### **ACEIT for Model Builders**

- Construct an estimate
- Enter methods
- Incorporate Uncertainty
- Generate a CER
- Create What-if Cases
- Open estimate in POST



#### **ACEIT for Reviewers**

- Review an estimate
- Understand methods
- Understand Uncertainty
- Generate Reports



#### ACEIT for Advanced Model Builders

- Modeling Durations
- Advanced Functions
- Data Table
- Advanced Uncertainty Analysis
- Model Integration



#### **ACEIT for CER Developers**

- Dataset Organization
- Understand the dataset
- Analyze the dataset
- Validate the analysis
- Document

#### **ACEIT for Schedulers**

- Introduction to Joint
   Confidence, JACS, and
   MS Project
- Using JACS to build a JCL
- Analysis Results
- Working with JACS files

**Introductory Course** 4 Days of Instruction

Introductory Course
2 Days of Instruction

Advanced Course
4 Days of Instruction

**Independent Course** 2 Days of Instruction

**Independent Course** 2 Days of Instruction

