

Energy Code Web-based Resources for Training and Technical Assistance: ERS' TAO System

TAO FOR energy codes

TECHNICAL ASSISTANCE ON-LINE

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Supporting Energy Efficiency and Code Compliance

ERS Background

➤ Energy Codes

- Energy Code Training Courses
- Technical Assistance Circuit Rider Programs
- Consulting Services for Energy Code Compliance

➤ Energy Efficiency and High Performance Buildings Consulting

- Design Services and Design Assistance
- Facility Studies for EE in New Construction and Retrofit Applications
- Training in Energy Efficiency Design and Technologies
- Energy Program Design and Implementation
- Energy Program Evaluation
- Green Building Development

Energy Code Training Efforts

Traditional Approaches

- **PowerPoint Presentations (Typically 2-4 Hours per Module)**
- **Offered Intermittently at Central Locations**
- **Focused on Energy Code Content and Requirements**
- **Variety of Training Modules**
 - **Commercial and Residential Sectors**
 - **Building Envelope**
 - **Building Mechanical Systems**
 - **Building Electrical Systems**
 - **Compliance Software**
- **Limited Interaction with Trainers**

Energy Code Technical Assistance Circuit Rider Overview

- **Aggressive Outreach to Support Energy Code Compliance**
- **Approach Overview**
 - **In Office Technical Assistance and Expert Guidance**
 - **Address Client Company Specific Projects and Issues**
 - **Gain a Better Understanding of Energy Code Requirements**
 - **Learn Technical Approaches for Complying with Energy Codes**
 - **Discuss State-of-the-Art Approaches for Energy-Efficient Design & Construction Practice**
 - **Learn How and Why to Go Beyond Code**
- **Encourage Positive Attitudes Toward Compliance**
- **Forum for Candid Conversation on Code Issues**

Are High Energy Code Compliance Rates Difficult to Achieve?

➤ **YES!!!**

- **Lack of Awareness and Understanding of Codes**
- **Inadequate Education on Technical Approaches**
- **Energy and Resource Efficiency is a Low Priority**
- **Concerns About Competitiveness**
- **Perception - There is No Accountability**

Findings and Recommendations to Further Support Energy Code Compliance

- **Improve Outreach for Non-Design Firms**
- **Energy Code and Energy Efficiency Training**
 - **More Widely Available Energy Code Training**
 - **Energy Efficiency Training for Architects and Engineers**
 - **Targeted Energy Code Training for Contractors/Vendors**
- **Expert Technical Assistance Resources**
 - **Continued and Expanded Circuit Rider Efforts**
- **Other Recommendations and Resources**
 - **Need for More Instructional Documents and Qualified Links for Information**
 - **Integrate Code Training Efforts with General Data on Energy Efficiency Programs and Advanced Design Resources**
 - **Publish Summary Guides of Available Utility Programs**

TAO™ – Technical Assistance Online

Integrated E-Learning and Technical Assistance

➤ **General Online Technical Assistance Website**

- **Energy Codes**
- **Energy Efficient Design and Construction Techniques**
- **Energy Efficiency Products**
- **Energy Efficiency Programs**

➤ **Integration of Multiple Concepts**

- **E-Learning Courses**
- **Expert Technical Assistance**
- **Resources to Expand Learning**
- **Additional Related Concepts to Enhance Learning**

➤ **Customizable to Operate in Alternative Site Environments**

TAO™ – Technical Assistance Online for Energy Codes

E-Learning Features

➤ **Courses Address**

- **Commercial and Residential Sectors**
- **All Building Systems (Envelope, Mechanical, Electrical)**
- **Compliance Software**

➤ **TAO E-Learning Course Features**

- **Courses Broken into Modules and Lessons**
- **Initial Courses Developed for Model Codes then Customized for State Codes**
- **Dynamic, Self-Paced Interactive Training Courses**
- **Visitors Can Select Full Courses or Any Specific Modules or Lesson**
- **Context-Sensitive Connection to Other TAO Features**
- **TAO Website System Keeps Track of Your Course History**
- **Courses Include Quizzes and Tests to Evaluate Learning Effectiveness**

TAO™ – Technical Assistance Online for Energy Codes

Expert Advisor (Technical Assistance) Features

- **Online Resource for Energy Code Questions**
 - **Nationally Recognized Experts in Energy Code/Technology Areas**
 - **Peer-to-Peer Approach for Technical Assistance**
 - **Alternative and Supplement to E-Learning Courses**
 - **Visitor or Expert Can Include Attachments to Illustrate Points**
 - **TAO Website System Keeps Track of Your Course History**
- **E-mail Routing System and Other Features**
 - **Determines Which Expert Gets Inquiry**
 - **Allows for Systematic Review Before Return, If Desired**
 - **Tracking Functionality Informs TAO Project Managers of Status**
- **Database of Questions and Answers**
 - **Offers Experts Access to Previous Questions and Answers**
 - **Provides Foundation for Searchable Knowledge Base**

TAO™ – Technical Assistance Online for Energy Codes Resource Center

➤ **Resource Center Features**

- **Pre-Evaluated, Annotated Links to other Sites**
- **Downloadable Documents**
- **Energy Code and Energy Efficiency Glossary**
- **Knowledge Base that Grows with Expert Advisor Interactions**

➤ **Information Can Be Customized for State Implementations**

➤ **Integrated Search Tools Let Visitors Quickly and Easily Find Relevant Center's Information**

TAO™ – Technical Assistance Online for Energy Codes

Other Features

- **Energy Efficiency Advanced Design Information**
 - **Enhanced Information to Support Capability to Compliance**
- **Energy Product and Building Technology Information**
 - **Qualified Manufacturer Data and Presentations**
- **Energy Efficient Program Information**
 - **Data on Utility or State Operated Efficiency Programs**