



## Pre-Fabrication Primer on Tactics

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**This session is eligible for  
1 Continuing Education and 1 Contact Hour.**

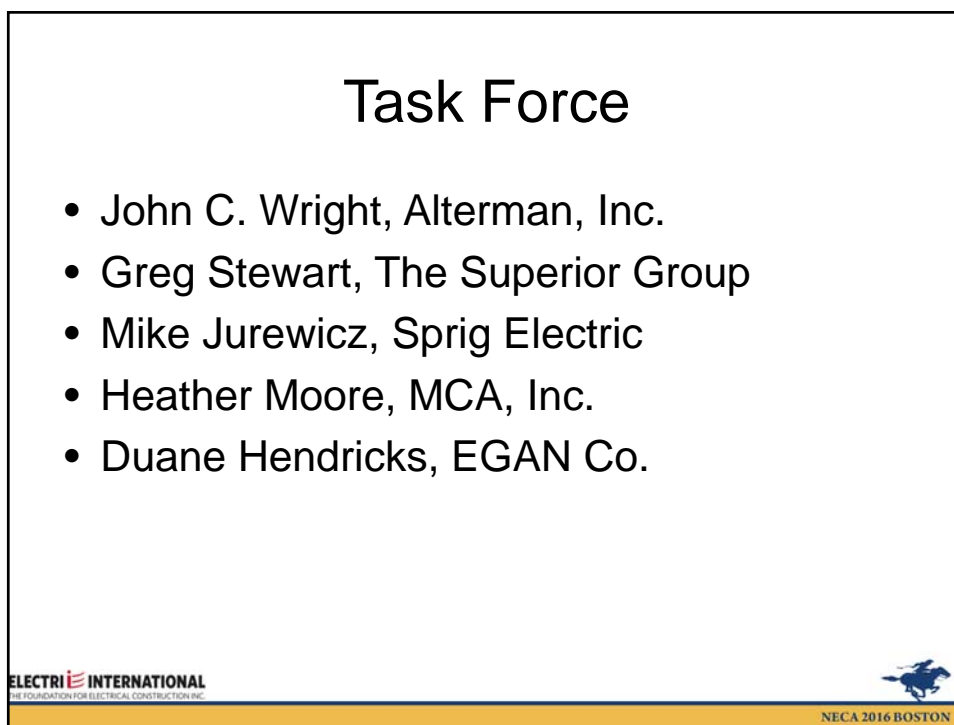
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## Task Force

- John C. Wright, Alterman, Inc.
- Greg Stewart, The Superior Group
- Mike Jurewicz, Sprig Electric
- Heather Moore, MCA, Inc.
- Duane Hendricks, EGAN Co.



## Case Study Participants

- The general demographics of those participating include:
  - 2 non-union electrical contractors
  - 10 NECA contractors
  - 3 Mechanical Contractors
  - About half were from the Midwest
  - About half had very active (and in many cases) large prefabrication areas
  - Twenty-five percent were new (in the past year or so) to prefabrication



## Beginner's Tactics

1. Get Started / Start Small
2. Clear Space
3. Use Warehouse to increase productivity
4. Sell / Donate Back



## Beginner's Tactics

5. Buy Prefabricated Materials
6. Visit the NECA Show for new vendors
7. Standardize on specific materials
8. Explore Lean – Use 5Ss

Grunau Video -

<http://www.grunau.com/lean-construction.php>



## Beginner's Tactics – Page 3

9. Use the best personnel
10. Measure
11. Track
  - Separate by cost code



## Results

- Labor savings of 15 to 35%
  - One report of 75% savings
- Material savings of up to 40%
- Better Schedule Compliance
- Safer jobsites



## Further Thoughts for Beginners

1. **Start small** – pick a project that has a strong likelihood of success, put measures in place to determine the level of success and then tell others in the company about it.
2. **Devote space** – preferably space that is well lit well planned and in an area others can see.
3. **Make it voluntary** – success will not come from forcing participation.
4. Put the **best people** in the prefab shop – this demonstrates your commitment to the process.
5. **Organize shop** using 5S events; a poorly organized area used in prefabrication will dramatically (and negatively) impact the likelihood of success.
6. **Manage** prefab as a bucket – specifically identify how many hours are moved from the field and put in the prefabrication efforts, then measure how many hours are used in the prefab, return the remaining hours back to the field and see how they do. The key is to be transparent with the hours and share the success.
7. **Use Apprentices** or if allowed, CWs, in prefab shop (reduce your hourly rate).



## Advanced Tactics

1. Package into bins
2. Separate material handling from installation
3. Reduce packaging
4. Provide more time for planning



## Advanced Tactics

5. Go to NECA Show Yearly
6. Establish long-term purchasing agreements
7. Be transparent in hours
8. Track Waste reduction



## Highly Advanced Tactics

1. Increase modelling to support pre-fab
2. Modularize
3. Pre-fab to Critical Path
4. Expand Market Share



## Highly Advanced Tactics

5. Manage Productivity at task level
6. Seek out Experts
7. Apply Lean
8. Manage by facts



## Highly Advanced Tactics

9. Invest heavily in planning
10. Pre-fab at the jobsite



## Other Thoughts

- Stay out of the storage business
- Only have materials on the job for the next week
  - Reduce the number of touches
- Visit with the design engineers to identify prefabrication opportunities
- Pick what you DON'T want to do in the field
- Eliminate trash / packaging
- Remove benders from the field
- Coordinate multi-trade racks





## One Big Idea

- Develop Software to support productivity measurement / pre-fabrication



## Questions?

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*Don't forget...*

- 10:15 - 11:30 am – Opening General Session *with Doris Kearns Goodwin*
- 11:30 am - 5:00 pm – NECA Show Hours

