Paula
Let's do a quick refresher of The Model House

This is our Control Tower of The Thinking System - It's only a model but can be very powerful in constructing a new Culture of Continuous Improvement. You will see this model throughout this entire training course of CPI2. We will show you how we built this Control Tower from the ground up and why each piece is an integral part of constructing the Continuous Improvement Culture.
It's important to understand that this tower builds the structure for discussing the "What" is required to build the Continuous Improvement Culture but not the "How". That will come later.

Each element can be monitored with metrics. Care must be taken to understand the impact a metric has and create value in their use. The point of metrics is to focus on those that are NOT meeting the target, problem solving, and making improvement. It is NOT about lowering the standard in order to meet the target.

The Thinking System
Simply put **The Thinking System** is a challenge for YOU to THINK. It's about developing people who can come up with creative and innovative ideas.

Going to the source of a problem to find facts and to cause you to use all your senses; sight, hearing, touch, taste, smell. And stopping to think, not talk, about your surroundings so you can begin to search for the root cause of a problem and about creative and innovative solutions.
The Thinking System is about Developing People to think.

For this session we are focusing on "Building the Foundation" which is highlighted so you can see we have the Bedrock and the Foundation. In the construction world if you build something it has to be built on solid ground and in our case it has to be built on solid principles and fundamentals.

Bedrock for the Control Tower

Mission, Vision & Values
- **Mission:** To Fly, Fight and Win in Air, Space and Cyberspace.
- **Vision:** The World's Greatest Air Force—Powered by Airmen, Fueled by Innovation.
- **Values:** The common bond that unifies us all. We live and serve with a commitment to three core values: Integrity, Service, Excellence.

Readiness & Lethality
- **Readiness** sets the state for an organization that can perform in many situations effectively and on-demand.
- **Lethality** is a process of precision which means that the performance is timely, accurate and effective.

Leadership must have the deep understanding of the potential for the long-term growth for the organization.
- For the organization to achieve the strategy, this foundation must be 100% enacted at every moment (NOT OPTIONAL).

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Paula

At the base of the bedrock are those statements and commitments that form the purpose of the organization. They by their nature are permanent and stable. They define the basis for the Culture of the Air Force.

Within that bedrock. **Mission** is the purpose statement for the organization. In your mission in the Air Force statement are the words Excellence, Integrity, Become Leaders, Innovators, and Warriors.   Our primary focus is to help you achieve another level of Excellence and to Become leaders of improvement at each and every level within the Air Force..

In your Vision and Values are statements of WHERE THE ORGANIZATION IS GOING, especially, with a commitment to operate based on very specific behaviors used to achieve long term performance. The Air Force Vision statement defines values and key capabilities. Within key capabilities we will help you define the behaviors necessary to build a culture of Continuous Improvement. The Air Force's Values are the words Integrity, Service, and Excellence. These always allow room for improvement.

Readiness sets the state for an organization especially the Air Force to be ready to perform in many situations effectively and on-demand. It can not be open ended and must be defined and detailed so everyone must be prepared. The constant state of change and unrest in the world today makes readiness a mandate

Lethality is a process of precision which means that the performance is

timely, accurate and effective. It is delivering the right effect at the right time to the right place. In order to achieve a lethal outcome each process that supports that outcome has to also deliver the same precise level of performance. It is precision at its peak. There is a direct connection between lethal performance and the precise execution of every process that creates lethality.

The management of the bedrock requires that Leadership must have the deep understanding of the potential for the long-term growth for the organization needed to be ready. For the organization to achieve their strategy, this foundation must be 100% enacted at every moment (NOT OPTIONAL)

The Air Force already has a solid Bedrock. So, let's keep on building using it to support Continuous Improvement.

Paula

The strength of a control tower lies in its foundation. The main purpose of the foundation is to hold the structure above it and keep it upright.

There are three critical components of the Foundation: Standard work/ SOPs, Challenge and courage,and stability.

- Therefore the strength of this foundation is EXCELLENCE IN ITS PROCESS or "**Standard Work**"

- **Standard Work - SOP (Standard Operating Procedure)**
  - **Standard work** is setting, communicating, following, and improving the work to be done

- **Challenge and Courage**
  - **Challenge** the status quo, break the mold, which is giving someone a little bit more than they believe they can do
  - **Courage** to see the possibility of improving their work and allowing them to learn from their mistakes

- **Stability**
    - **Stability** is achieving consistency in doing a job or process which allows us to see instability

- We start from wanting to achieve process best practice. It is believed that by having standard work or SOPs we build on the foundation of readiness and lethality.

- Since Standard work is the foundation of process best practice, it creates the way to repeat each process perfectly every time. Standard work changes as improvement's are implemented and continues to be the basis to resolve new problems or deviations.

- We have found that, all processes have waste and on average 95% of the content of those process is waste. We like to think of waste as opportunity for improvement.

- The rest of the process content (Value Add) is anything that changes the form, fit or function to meet operational or service requirements.

We will speak to each of these in the next few slides.

Foundation: SOP - Standards

Standard work is setting, communicating, following, and improving standards.

This will be Service Standard Work (SOP) for
The Simulation you will be participating in.

Most likely to be used in shop
floor, Maintenance, etc.

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- **Paula**
- **Now let's break these concepts down to a more detailed understanding**
- **The slide shows examples of forms that can be used in helping to document standard work. We are not focusing on the documents themselves but the intent and importance of having written standards.**

We are spending a lot of this precourse focusing on standard work because it is the key and so valuable to building on continuous improvement.

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- **Standard work** is setting, communicating, following, and improving the work to be done
  - Identifying and developing standard work begins with sharing information about the most efficient method to perform a task that is currently being performed by an employee who is currently performing that job.
  - It is important to understand that writing down a process is only

- - the beginning of standard work. This is fine but if you hide it away and don't follow it every day continuous improvement is not possible.
  - Once the standard work has been shared, everyone who performs that job is following the standard and practices this standard consistently so that the work is done the best way every time.
- This is where **continuous improvement** comes into play; standard work is a living, breathing process that is changed methodically through continuous improvement redefining best practice.
- It becomes the basis of comparison to define deviations, OR PROBLEMs, and standard work allows us to find and remove waste and improve performance.
- It is because it has been proven to be reliable that waste can be seen and removed

- **Standard Work** creates stability and consistency within a continuous improvement system by providing the baseline for all **Process Control** and is the **foundation** for building a solid structure for any service or process to stand on. If you build a control tower the "foundation" has to be rock solid. Think of this part of the foundation as Standard Work.

- **Standard Work** can be seen in everyday life in some of the most simplistic forms. How do you bake a cake - with a recipe? How about changing a tire or changing your oil?   Ever had to fill out a job application or insurance forms? All of these are examples of **Standard Work.** And so, it goes without saying your job will have standard work.

- More specifically for what you do in the Air Force, for example you have Standard Work or sometimes called Standard Operating Procedures (SOP)..
- They basically serve the same purpose but may be missing key elements, such as Value Stream Maps, Job Instructions, Job Elements or capacity / time studies for very detailed training.
- By breaking the standard down into tasks it allows the person to see waste easier when each task is defined as VA (Value Add) or NVA (Non-Value Add).

- About every 3 to 5 years you need to go Back to Basics to confirm if we are still maintaining the basics in our standard.

- Here are some examples of where **Standard Work** is critical in the Air Force:

  1. Air Force mission capability is dependent on the readiness of the Air Force fleet
     a. Using Standard Work (SOPs) allows you to begin practicing Continuous Improvement methodologies (Problem Solving and Plan-Do-Check-Act or PDCA) to improve the efficiencies and effectiveness delivered per aircraft and per sortie. These improvements will deliver more Air Power for every tax dollar spent (Lethality).

  2. Maintenance of aircraft, airfields, ramps, etc
     a. Using Standard Work (SOPs) allows you to begin practicing Continuous Improvement methodologies (Problem Solving and PDCA) to manage PM's and daily maintenance of aircraft, airfields and ramps which allows for quicker turnaround to in-service aircraft and other ground support equipment which in turn increases the availability of aircraft for the mission (Readiness).

Foundation: Challenge and Courage
- **Challenge** the status quo, break the mold
- **Courage** to see the possibility of improving their work

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- John
- Embedded in the foundation is to have Courage and to Challenge the way things exist today (status quo).

- Your Mission Statement is: We Do the Impossible Every Day

- Challenge is a kind of ability to show confidence to speak up skillfully, challenging the issues facing simple or complex situations even when confronted with resistance or unfamiliar circumstances. It's about achieving purpose. Courage is to allow people to learn and grow by doing and making mistakes. Too many times it is easy to rush in there to fix things for people and deny them the opportunity to learn.
-
- In order to achieve organizational purpose, everyone in the organization must accept and accomplish the challenge before them which are MADE UNDERSTANDABLE BY LEADERSHIP. Allowing mistakes creates a no blame culture. Mistakes are an opportunity to learn. The culture we desire says not to give them answer. Just give them a way to think.

- People need **Courage** (COMING FROM LEADERSHIP) to see the possibility of improving their work and becoming more efficient BY

- making simple changes, or thinking totally outside the box– no matter what the job or process is. The challenge comes from management's role to achieve improvement WHICH creates the BASIS OF courage FOR OTHERS.

- People need to see the status quo as an opportunity to **Challenge** , that is breaking the mold, leadership must have the courage to allow them to try. Sometimes this means failing and being allowed to fail. It's about learning how to continue to move forward. Standards will become stale over time and must be monitored and CHALLENGED to maintain their reliability
- Leadership must be trusted in their challenge TO ALL and Leadership must have the courage to allow the organization to learn at every action, accepting the fact that people will make mistakes. Allowing mistakes creates a no blame culture.
- This culture supports people learning, and thinking as a result, and strives to support the positive outcomes without blame. The learning is accepted through daily activity as they determine if the process delivers the outcome desired and the process cannot allow the same mistake to be made again. All of this requires thinking on the part of the member.
- Courage in leadership is required to accept the time and interaction required to improve. The acceptance of learning is embedded and necessary.
- You cannot make productive improvement to a standard unless you have achieved stability in its performance. In other words you cannot have a standard if you are not performing to it as it is written.

While having standards are critical to continuous improvement as a basis of comparison, Courage and Challenge help question the process and make it even stronger.

Understanding Courage and Challenge is key to achieving a strong foundation.

Foundation: Stability

- You must have a stable process before Continuous Process Improvement & Innovation (CPI²)
- **Stability** allows deviations to be seen.
- **Stability** is achieving consistency in doing a job or process. Stability does not equal Best Practice. It just simply means you can repeat the same process reliably for its purpose.
- Most processes typically have 95%+ WASTE

QI Macros Control Chart with Stability Analysis

1. Confirm all Standards
2. Problem Solving
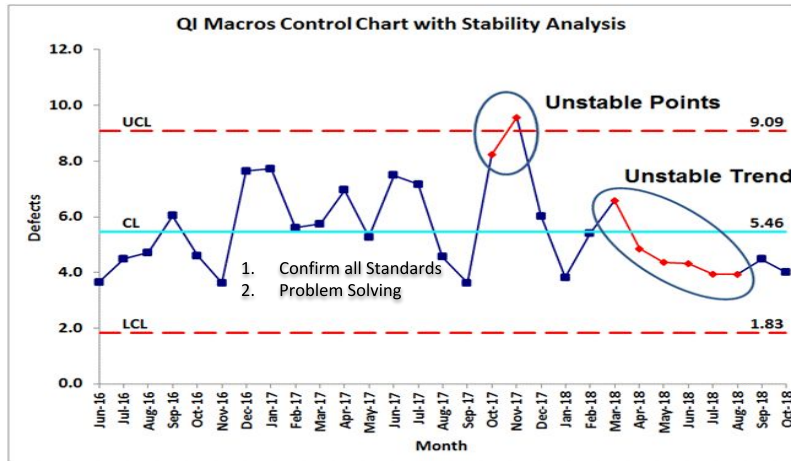
John,

Let's examine this statement about standards

- You must have a stable process before Continuous Process Improvement & Innovation (CPI²) can begin. Stability is both a DESIRED condition and what you must strive for.

- The reason you need that stability is because Stability allows deviations to be seen. As you can see on this chart there are two unstable conditions. One is an unstable point and one is an unstable trend. Before you could begin making changes or improvement to this process everything needs to be brought back to the standard and then understand what the real problem with the process is by doing basic problem solving. It's necessary to see that instability in itself is waste. And it is necessary that every improvement requires stability for a period of time before additional improvement can be made to the new standard

- **Stability** is achieving reliability in doing a job or process. Stability does not equal Best Practice. It just simply means you can repeat the same process reliably for its purpose. As you can see if the first part of this

- graph there is stability within the control limits BUT it leaves a lot of opportunity for improvement as most processes typically have 95%+ WASTE

- ALL daily performance has variability in it. Our first task is to ensure that while improvement is taking place the variability has been lessened and the process smoothed out. This is accomplished through standardizing current process, taking variability out of them and engaging in Continuous Improvement. Stability is a required tool for which leadership can view performance. This does not mean all waste is out of it.

- Any deviation is an opportunity to improve the standard to avoid further deviations through elimination of waste. In many cases the deviation exist because standard work was not followed. This could be due to ambient temperature changes, measurement setting were changed, a raw material was changed, or any number of things. You must ensure that all the standards are being followed which impact that deviation.

When alleviating deviations, the owner and performer of the standard must engage critical thinking to arrive at the root cause and create measures to alleviate the deviation.

- Stability is a required tool for which leadership can view performance
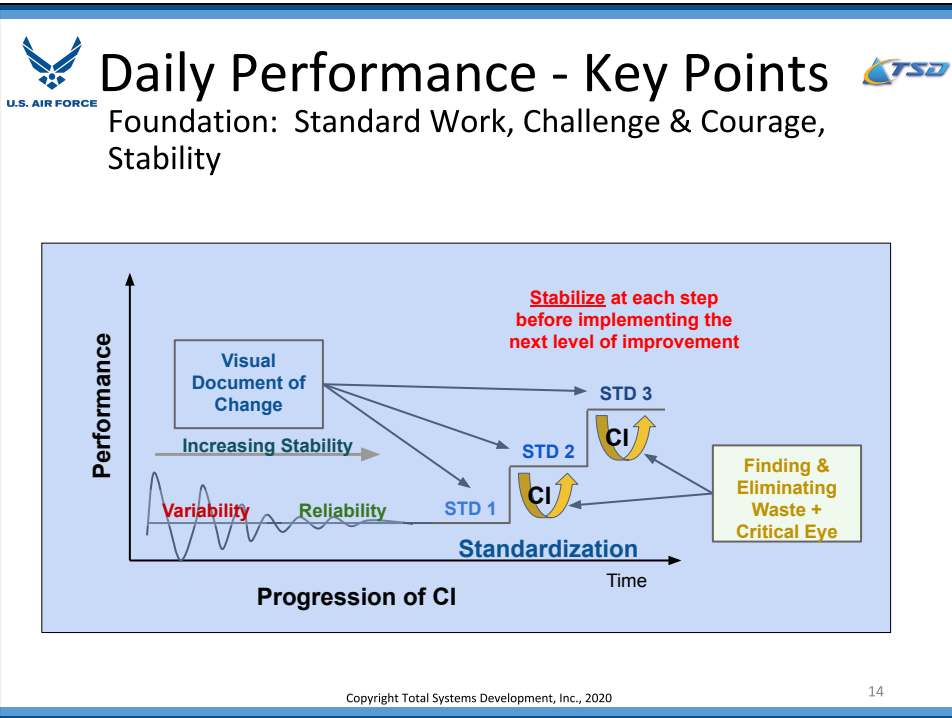
- John

- The strength of a building lies in its foundation. The main purpose of the foundation is to hold the structure above it and keep it upright. Therefore the strength of this foundation is EXCELLENCE IN ITS PROCESS or "**Standard Work" and Continuous Improvement requires Courage to Challenge to the Status Quo to Achieve Stability before making the sustainable improvement.**

- We know that real life is very complex and we can't discuss every contingency so we place great importance on conceptual knowledge that can be applied to all situations.

The key points for each are:

- **Standard Work / SOP (Key Point)**

    Everyone is responsible to follow standard work and to THINK about Continuous Improvement in a methodical way.

- **Challenge and Courage (Key Point)**

    Leadership must be trusted in their challenge TO ALL and Leadership

must have the courage to allow the organization to learn at every action, accepting the fact that people will make mistakes. Allowing mistakes creates a no blame culture.

- **Stability (Key Point) is the reduction in variation so instability can be easily seen.**

  Always have a stable process (not best practice) before attempting Continuous Improvement. First order of business is to eliminate the major sources of instability so waste can be easily seen and eliminated.

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The BedRock is the Air Force

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  - **Stability** is achieving consistency in doing a job or process

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Paula
- As we said earlier, the Air Force has built the bedrock, and needs to remain solid and has been for years.
- Your Mission, Vision, and Core Values have not changed. And the service you provide is incredible.
- Thank you for what you do. We want to help make your processes more efficient, more agile, and remove waste and redundancy.
- The way to do that is to build on top of what you already have built in the BedRock to create a solid foundation to make improvement in what you do every day.
- Yes, what you do may be very complex, but what we are teaching you is a very common sense approach to making a group of simple improvements that have significant impact.
- Even though it is common sense you can not escape the thinking required to determine what needs to receive emphasis.

- We know you have courage or you wouldn't be where you are, we are asking you, as leaders, to have the courage to challenge the status quo. Make a difference. And to have the courage to allow the people below you to make that challenge as well. We want people to think about what they are doing and see how it can be done better.

- Standard Work and SOPs exist in our everyday lives. You see it everywhere you go and we all get frustrated with it and say if I was doing that I would do it this way…. Or I would make it faster or better. That's what we are doing here in a systematic and methodical way. We want to help you understand the purpose of Standard Work, why it is necessary, and how to improve it everyday. Because it is foundational you will hear a lot about it. What is important is that because it is foundational it can not be ignored.
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- Choosing to ignore the enactment of Standard Work will limit the value of Continuous Improvement and leave no chance of Continuous Improvement becoming a way of life. We will talk about the "how" of standard work as we progress through our learning.
- And lastly, we want you to understand that we don't want you to think of this as just making change for the heck of it. We want change to make things better. But we also want you to understand that once that improvement is made you have a new standard that has to be communicated, trained, and followed to achieve a new stable standard. We become more powerful as more people understand and embrace standard work.

- Becoming what the organization wants is not becoming what the leadership wants but a higher purposing to avoid a leader who is only after their self interests. It seems important to allow the individual to feel purposeful and not just following the leader. Both the challenge and courage are key for you to see the power in learning.

- As we progress in our learning and implementation, one of the most powerful foundations to Continuous Improvement is to work to maintain stability through standard work and to find and eliminate instability in our daily operations. Instability is waste. Once we find it we must be compelled to find a way to get the situation back to stability as fast as we can. The longer we take the more waste we generate. Although eliminating waste is a basic strategy for Continuous Improvement, we cannot succeed if we are just focused on achieving stability.

- We will all be learning for sometime. Thinking will become a way of life. The key to thinking is that it has a positive outcome for us to accomplish the goals and objectives we are given. In the learning the outcome is not just thinking but thinking that causes all of us to be improving on a consistent basis. Imagine how powerful that will be for readiness and lethality for the Air Force. Imagine how positive it will be to those who are pursuing a career.

Thank you for your time. In the next session we will be talking about the THE THINKING SYSTEM.