

#### 2019 International Sales Meeting

**Thermal Oxidizers** 

#### Agenda

- Department introduction
- New product/market development
- Competition analysis
- > Zeeco's competitive advantage
- > Real life applications and sales strategies
- > What we need from our sales team/agents
- How we can support you







"We must burn that which we do not want our children to breathe."

-- John R. Petersen



"Thermal Oxidation is a technically challenging, but often effective way to make money."

- Darton J. Zink

#### What is Thermal Oxidation?



#### What is a Thermal Oxidizer

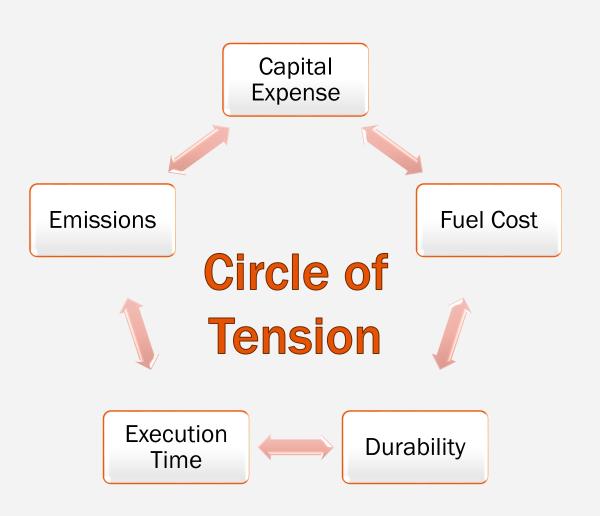


- Thermal Oxidizer = Incinerator (synonyms)
- Destruction of waste via controlled burning (combustion).
- Textbook Definition: A process unit used for air pollution control that heats a continuously generated undesirable waste stream to a sufficiently high temperature with adequate residence time and turbulence such that the hazardous components are satisfactorily oxidized or decomposed prior to release to the external environment.



#### **Technical Challenges**





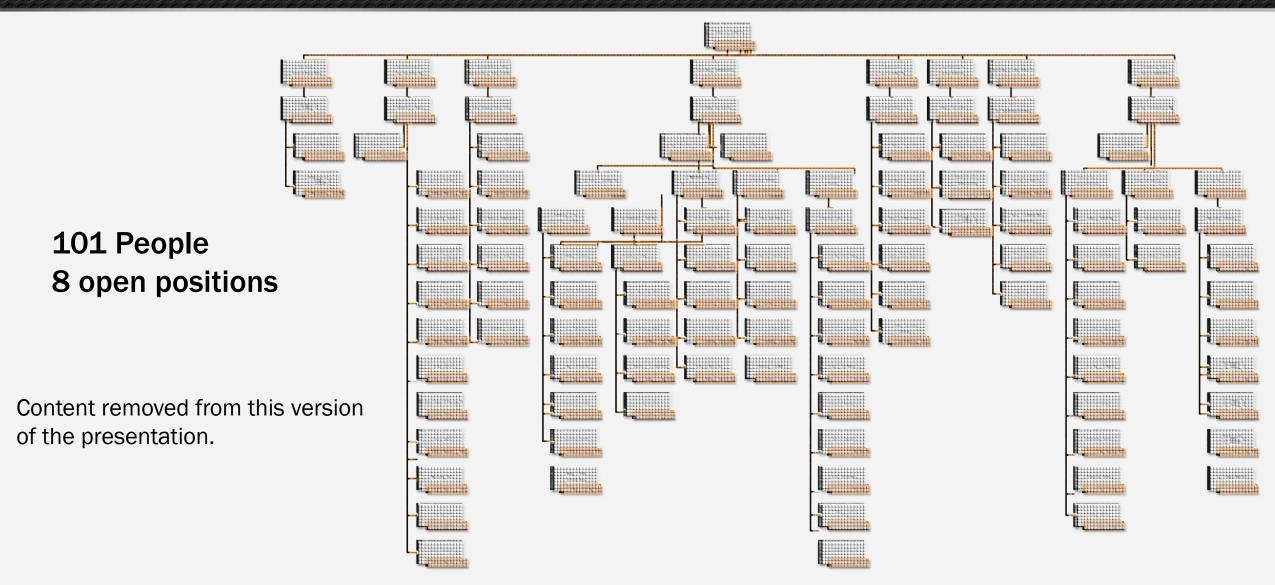
- What we do is difficult and carries a significant degree of risk.
- Our equipment must operate in a safe and clean manner.
- Most systems are customdesigned to solve a specific set of customer problems.
- The emissions performance of our equipment will be measured.

#### Introduction of the Team



#### **Global Organization Chart**





#### Organization Chart - Department Level





Terry Dark Director



Applications Engineering



Project Execution



Controls and Instrumentation



Structural Engineering



Process Engineering



Ryan Tate Applications Engineering Manager



Chad Kropp Project Execution Manager



Mark Bowling Chief C&I Engineer



Todd Perry Chief Structural Engineer



Kirk Wesselowski Chief Process Engineer



Sydney Levine Midstream and Domestic End User Team

#### The State of the Business



**Thermal Oxidizers** 

#### Sales Performance and Market Share



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#### What We Do





#### A Tale of Two Markets



MARKET	International EPC and Mega Projects	Midstream and Domestic End User Projects
Zeeco Sales Manager	Ryan Tate	Sydney Levine*
Project Complexity	High	Low
Type of Product?	Highly Customized to Exacting Customer Specifications	Standardized product line with some customizable features
Customer Specifications?	Yes, many	Few, if any
Sales Period?	Long (> 1 year)	Very short (1 – 8 weeks)
Execution Period?	Long (> 1 year)	Very short (3 - 20 weeks)
Typical Order Value?	> \$1MM	\$150K - \$350K
Maximum Order Value?	\$60MM	\$5MM
Relative risk Level?	High	Low
Geographic Region?	Everywhere	Primarily North America
Example Customers	Bechtel, Fluor, JGC, etc. for end users such as Saudi Aramco, XOM, Petrobras, SABIC, KNPC	Williams, Energy Transfer, Targa Resources, etc. plus domestic end user contracts for Shell, XOM, BASF, Marathon, etc.

#### **Primary Markets by Industry**



- Petroleum Refining
  - SRU Reaction Furnaces
  - SRU Thermal Oxidizers
- > LNG Liquefaction
- Gas Processing
- Petrochemicals and Specialty Chemicals
  - Chlorinated Waste
  - Bound Nitrogen Waste
  - PDH Air Heaters
  - MEG / EG / EO Thermal Oxidizers

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#### Standardized / Packaged Thermal Oxidizer Line



- This product line is very different from all of our other products. It is a standard, off-the-shelf solution for the North American Gas Processing industry.
- Zeeco offers a full range of standardized products in this line, from those sized for very small flow rates (< 200 ACFS) to very large flow rates (> 3500 ACFS).

- > Standard features include:
  - Zeeco combustion technology
  - Zeeco ARGS pilot (most reliable pilot in the industry)
  - NFPA 86 compliance
  - Touchscreen controls with on-screen diagnostics
- > Optional features include:
  - Remote access via cellular modem
  - Customized valve and instrument selections to comply with plant
  - Various waste heat recovery options
  - Knockout pots and detonation arrestors
  - On-site emissions testing
  - Erection and commissioning services

#### Packaged / Standard Thermal Oxidizer Line















#### **Sulfur Recovery Units**



- > SRU <u>Licensor</u> Experience:
  - WorleyParsons
  - CB&I / McDermott
  - Jacobs Comprimo
  - Shell
  - Black & Veatch-Pritchard
  - Lurgi
  - Prosernat
  - Ortloff















#### **Major SRU Reaction Furnace Customers**



- Major Customers
  - ExxonMobil
  - KNPC
  - ADNOC / Takreer
  - Total
  - BAPCO
  - Petrobras
  - Marathon Petroleum
  - Qatar Petroleum
  - PEMEX
  - Occidental Petroleum
  - EcoPetrol
  - Tatneft / Taneco
  - Hindustan Petroleum / Mittal Energy

















































Sulfur Recovery Units: Reaction Furnaces

#### **Major SRU Thermal Oxidizer Customers**









TOTAL

Chevron







































Sulfur Recovery Units: Thermal Oxidizers

#### **LNG Liquefaction Thermal Oxidizers**



Zeeco has unparalleled experience in the LNG Liquefaction industry and has supplied more than 50 thermal oxidizers in this market segment, which is more than ALL of Zeeco's competitors, combined.

Major LNG Liquefaction Customers:















ExonMobil









































LNG Liquefaction Thermal Oxidizers

#### Gas Processing Thermal Oxidizers



- Gas Processing applications take many forms, from globalscale SRU plants to Zeeco's line of packaged, off-the-shelf thermal oxidizers for small, amine treating plants.
- In some locations, especially in Southeast Asia, a semipermeable membrane is often used to remove CO2 and sulfur from raw natural gas instead of more traditional gas treating techniques. Zeeco's experience in the permeate or membrane gas treating market segment is without equal.

Major Gas Processing Customers:















































Gas Processing Thermal Oxidizers

#### Petrochemicals / Specialty Chemicals



- This market is more diverse than the other markets previously discussed.
- > Currently, the largest market segments are:
  - Chlorinated Waste Incinerators
  - Propane Dehydrogenation (PDH) Air Heaters
- Other market segments include:
  - Bound Nitrogen Waste
  - MEG / EG / EO Plants
  - Salt Laden Waste Streams

Major Petrochemicals / Chemicals customers:













TOTAL































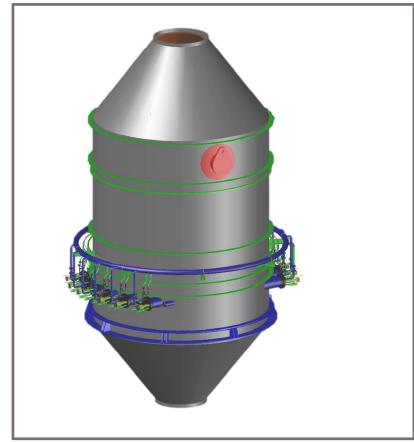




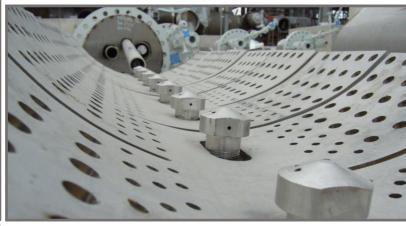


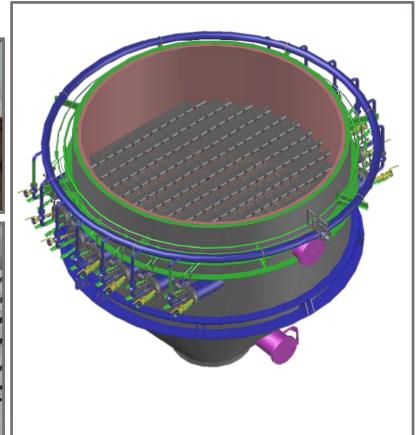


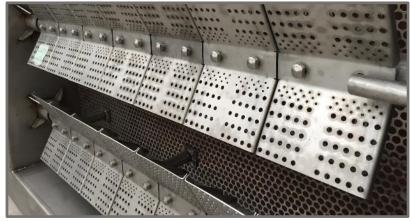
# Chlorinated Waste Thermal Oxidizers











Propane Dehydrogenation (PDH)
Air Heaters







### Bound Nitrogen Waste Thermal Oxidizers



## MEG / EG / EO Plant Thermal Oxidizers

#### Salt-Laden Waste Thermal Oxidizers



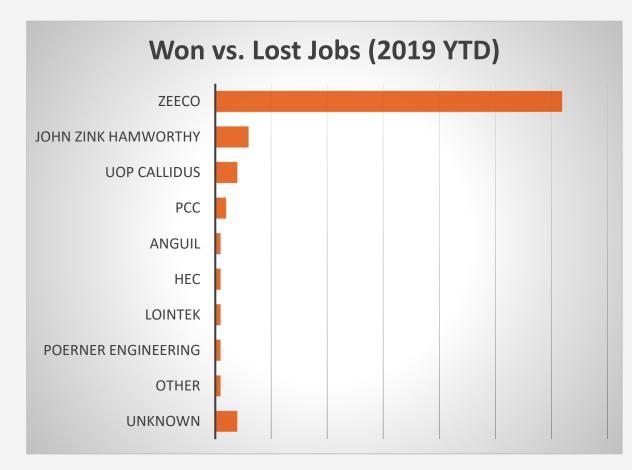


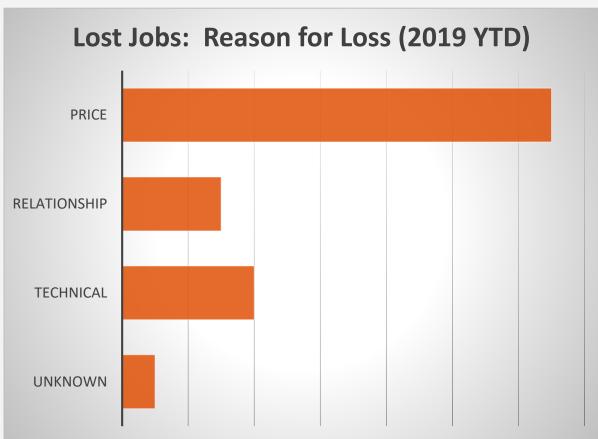
#### **Competitor Analysis**



#### Won vs. Lost Jobs







## Discussion on Competition



- ➤ Traditionally, Thermal Oxidizer orders are typically lost on price or on strength of relationship. This makes the acquisition of market intelligence from the customer extremely important.
- Competition is highly fractured. JZH remains Zeeco's main global competitor. Beyond JZH, competition varies largely by Sales Region.
- ➤ Today's Thermal Oxidizer market is somewhat of a Seller's market except in pockets where extreme competition with JZH exists. Must look for sales opportunities that function as an inefficient market, where competition is limited.
- > When we encounter strong competition, we will be very aggressive.

# Zeeco's Competitive Advantage



#### Competitive Advantage: Experience



- Zeeco's team of combustion engineers boast more than <u>750</u> <u>years</u> of combined combustion industry expertise.
- Over the past 20 years, Zeeco has provided more thermal oxidizers in the SRU and Gas Processing market segments than all other Zeeco competitors.
- Zeeco has supplied thermal oxidizers for more than 50 LNG Liquefaction trains around the World, much more than ALL of Zeeco's competitors combined.
- Due to retirements and defections, most of our competition is very weak in terms of technological experience, including John Zink and Callidus.





























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**BASF** 







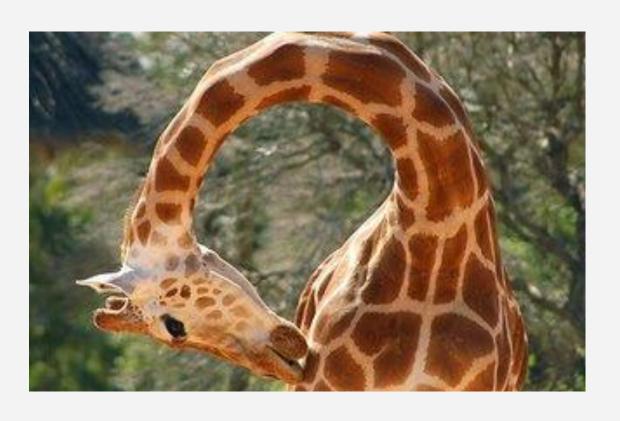






#### Competitive Advantage: Size / Flexibility





- Despite Zeeco's growth, we retain a distinct advantage in terms of technological and commercial flexibility relative to our competitors.
- We are large enough to execute many large, global-scale projects simultaneously without failing the customer.
- We are flexible enough to work with our customers on achieving improved deliveries, acceptance of customer's terms and conditions, and mobilizing to solve a customer problem quickly without lots of red tape.
- Over the past 5 years, most of our competition has shrunk in terms of size and capability, while Zeeco has grown (and continues to grow) dramatically.

### Competitive Advantage: Global Reach



- Zeeco offers a wide variety of subfabrication options on a global basis to support logistics and local content requirements, including:
  - USA
  - Mexico
  - United Kingdom
  - India
  - China
  - Korea
  - Indonesia
  - Thailand
  - Malaysia
  - Turkey
  - Saudi Arabia
  - Brazil



#### Competitive Advantage: Global Reach



- Zeeco offers Thermal Oxidizer direct sales and project execution capabilities in the following locations:
  - USA
  - India
  - United Kingdom
  - Brazil
  - China
  - Korea



## Real Life Sales Strategies



#### **Case Studies**



- > Shell / Pertamina JTB: Establishing sole-sourced supplier status via the relationship with the process licensor.
- Audobahn / XTO: Mini Mega Projects in the North American Midstream Market
- > Packaging Opportunities: Leveraging the sale of a Thermal Oxidizer to also get the Flare and/or Vapor Recovery Unit (and vice versa)

#### What we need from you!



- Establish a positive, trusting relationship with the customer as their advocate
- Identify someone on the customer's side who will be Zeeco's Champion
- Obtain market intelligence, including pricing/schedule feedback, information about competitor activities, etc.
- Qualify strategic opportunities where Zeeco can exercise a competitive advantage and win without having to be the low price



#### How we can support you!





- Timely Responses...something we need to improve upon in the face of explosive market share growth
- > Technical depth and experience
- Honesty in Communication
- > We will go anywhere, anytime in pursuit of a profitable order.
- > Value: We won't always be the cheapest solution, but we always strive to offer the highest value.

# GGS ZEECO

BURNERS FLARES THERMAL OXIDIZERS VAPOR CONTROL RENTALS AFTERMARKET