



Sublatus Environmental

# Decommissioning and Demolition 101

# OVERVIEW

- Introduction to Sublatus Environmental
- Lessons learned from the completion of numerous gas plant decommissioning and demolition projects
- Myths and truisms about the demolition industry



## PRESENTATION SCOPE

- Lessons learned over the past 15 years in completing oil & gas plant decommissioning and demolition projects.
- Plants:
  - 100 Tons to 8500 Tons (Scrap)
  - Next to a river and lake
  - Remote locations
  - Heritage site (aboriginal)
  - 1960's – 2009 vintage
  - Multiple owners
  - Mothballed units 25 years
  - High hazard environments (NORM)
  - Partial demolition of operating plant

## Myths and Truths

# LESSONS LEARNED

- Safety drives our business
- Client relationships are long lasting
- An experienced team is paramount
- Demolition is a small industry
- Subcontractor relationships are important

# MYTH #1

- A buyer will purchase assets as is, where is and be responsible for decommissioning and demolition costs



# MYTH #1 ANSWERED

Rarely. Why?

- Liability, cost, knowledge/understanding, hazardous materials, security, public relations
- Asset groups operate on Owners capital to fund sale
- Asset groups will ask to operate with little or no constraints





## MYTH #2

- Compressors, engines, pumps, generators can be sold for a high price



# MYTH #2 ANSWERED

Sometimes

- Timing is everything
- Location, location, location
- Different cycles for different applications
- Adding overhead decrease the recoverable value





# MYTH #3

- Lump sum pricing for assets yield a maximum return with little risk to the Owner



# MYTH #3 ANSWERED

## Not Always

- Assets are devalued to take on risk
- Asset liability still lies with the Owner
- Typical assets are valued on weighted averages of scrap



# MYTH #4

- You can save money or reduce risk by not completing a hazardous materials survey and including within the demolition scope



# MYTH #4 ANSWERED

It depends

- Project size matters
- The fox is in the hen house!
- Regulations may prevent
- Risk transfer is too high
- Pricing will be inconsistent
- Most value in assets is lost to hazardous material

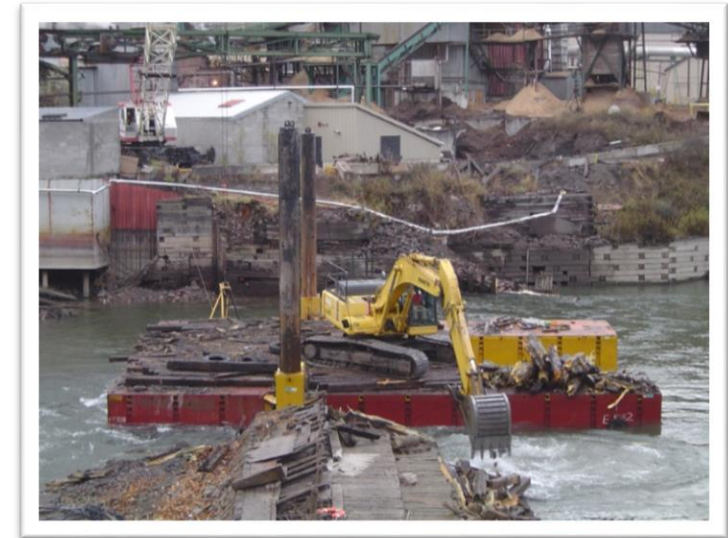
composition



# TRUISM #1

The majority of equipment will be sold as scrap metal

- Educate yourself
- Research markets (AMM, LME)
- Understand volumes
- Recognize processing/production rates





## TRUISM #2

Reuse/repurposing of equipment occurs most often within the Owner's organization

- Engage long term employees
- Plan the extraction injunction within the demolition plan
- Share in resourcing





# TRUISM #3

The greatest resource an Owner can provide to decommissioning and demolition are long standing employees

- Maintenance
- Change management
- Problems
- De-energizing
- Drain-down
- Local environment



# TRUISM #4

Understand your risks when contemplating contracting strategies

- Pricing structure – Lump, T&M, CP, Incentivized, Reverse Auction
- Hazardous materials management
- Scrap metal and equipment management
- Avoid high grading



# TRUISM #5

Plan, plan, plan

- Survey for all waste streams
- Identify hazardous material and volumes
- Understand disposal options
- Recognize metals volumes and types
- Know transportation routes and methods
- Think ahead towards remedial work



# TRUISM #6

More planning and cost control

- Air gap all lines
- Terminate services
- Inform stakeholders of activities
- Understand when permitting is required
- Are there archaeological or heritage road blocks



# TRUISM #7

RFP package – timelines, information, access

- Sufficient time required to close tender
- Give adequate information (drawings, equipment, site access)
- Provide access to former site operators
- Ensure access to routes is available (road, rail, barge)





# TRUISM #8

## Picking a partner

- Decommissioning
- Demolition
- Remediation
- Recycling
- Extraction
- Marketing





# TRUISM #9

## Picking a partner

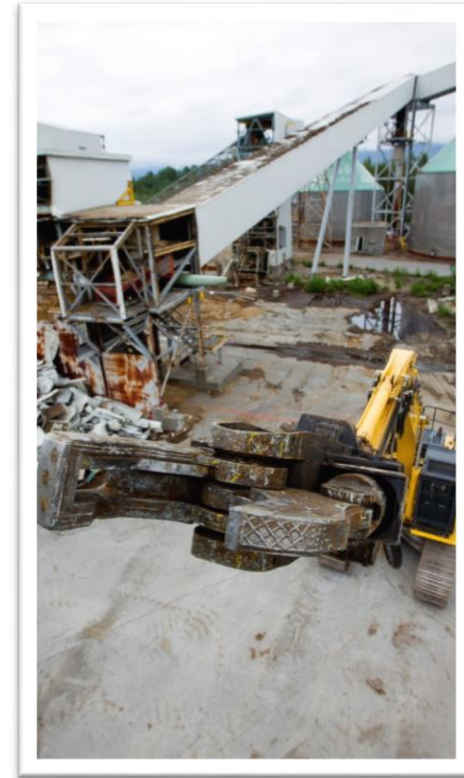
- Safety
- Proven competent (management and craft)
- Equipment (safety/sized correctly)
- SOP's
- Environmental Plan
- Controls for materials movement off site
- Interview / Interview / Interview



# TRUISM #10

How much risk do you want the contractor to hold

- Bonding
- Financially stable and capable
- Skin in the game
- Positive cash project (cash upon shipment)



# TRUISM #11

Recycling ferrous and non-ferrous metals should always be used in creating financial models for the project

- Resale or repurposing should be considered a bonus
- Ferrous weighted on a five year average
- Most non-ferrous is a three year weighted average



# TRUISM #12

There are many factors to consider when recycling scrap metal

- Is the juice worth the squeeze
- Is there enough volume to obtain negotiated rates
- Does competition exist within proximity of the project
- Transport cost, options and access
- Contamination issues



There is more than scrap that can be recycled:  
Concrete, asphalt and aggregate

- Contamination
- Transport
- Region
- Input costs
- Internal use/sale

# CLOSE OUT





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QUESTIONS?

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