

**Siemens Water Technologies**

# **Odor Control Specification Writing**

FWEA Air Quality Committee Workshop  
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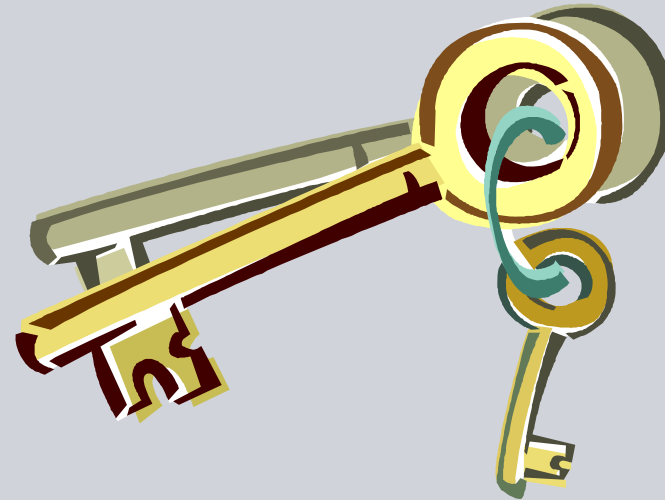
# Outline

- The Key Question
- Bid Formats, Who Controls Selection?
  - Preselection, Sole Source
  - Base Bid, Alternate Deduct
  - Fixed List of Approved Providers
  - Pre-Approved Equal
  - Or Equal
- Technical Specifications
  - Technical Features
  - Scope of Supply
  - Service
- Conclusion

## The Key Question:

# What are you trying to accomplish?

- Standardization?
- State of the art?
- Reliability?
- Longevity?
- Service?
- Placebo?

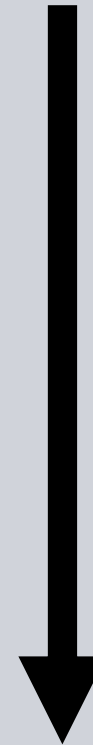


The answer to this question should drive your specification.

## Bid Formats

### Decreasing Order of Control:

- Preselection, Sole Source
- Base Bid, Alternate Deduct
- Fixed List of Approved Providers
- Pre-Approved Equal
- Or Equal



## Bid Formats

### Preselection, Sole Source

- Engineer and/or Owner Select Vendor & Negotiate Terms.
- Ultimate Control.
- Proprietary/Patented Technologies.
- “Like Equipment”.
- Verify Price vs. Similar Projects .

## Bid Formats

### Base Bid, Alternate Deduct

- Contractors must base their bids on certain supplier(s).
- Contractor selection made on basis of Owner/Engineer selected supplier.
- Alternates considered by Owner/Engineer after bid.
- Alternates from a pre-approved list or “open”.
- Owner/Engineer can consider cost-saving alternatives.
- Owner/Engineer remain in control.

## Bid Formats

### Fixed List of Approved Providers

- Contractors can select from among a limited number of qualified suppliers.
- Owner/Engineer define qualified list, then relinquish control of selection to Contractor.

## Bid Formats

### Pre-Approved Equal

- A list of qualified suppliers is provided.
- Contractors can select from among qualified suppliers or can submit additional supplier(s) for consideration *prior to bid*.
- Process for consideration must be defined, and executed if submission is made.
- Additional suppliers are approved via addendum.
- Owner/Engineer control approved supplier “pool”, relinquish control of final selection.

## Bid Formats

### Or Equal

- A list of qualified suppliers is provided.
- Contractors can select from among qualified suppliers or suppliers who claim to be equal.
- Owner/Engineer are still technically in control of defining “equal”, but only at submittal.
- One low-cost “garage shop” and one contractor who uses them as bid basis can either:
  - Result in poor quality project.
  - Result in higher cost and project delays to reject unqualified supplier

## Bid Formats

All are viable methods of product selection and project delivery.

Which is right for your project?

- Preselection, Sole Source
- Base Bid, Alternate Deduct
- Fixed List of Approved Providers
- Pre-Approved Equal
- Or Equal

# Technical Specifications

- Specify What You Need
- Specify Only What You Need
- Every Additional Feature Costs Money



# Technical Specifications

## Always Need

- H<sub>2</sub>S Performance
- Warranty
- Materials of Const. – Basic
- Startup & Training
- Experience

## Sometimes Need

- Organic and/or Odor Performance
- Noise
- Height/Footprint
- Specific Components
- Service/Maintenance

## Rarely Need

- Detention Time
- Materials of Const. - Details

# Technical Specifications

## Performance

- Performance requirements determined during design/evaluation.
- Every performance specification needs to be verified via testing – testing costs money.
- Specify what you need to achieve the objectives of the project, no more, no less.
- H<sub>2</sub>S testing is pretty basic, inexpensive, and therefore universal.
- Verify need before specifying: bottled gas testing, odor panel testing, organic compound testing.

# Technical Specifications

## Warranty

- One year warranties are industry-standard. Defects in materials or workmanship will become evident in one year.
- Extended warranties vary among manufacturers. Adds cost and/or ambiguity.
  - Pro rated?
  - Onerous operation and maintenance record-keeping?
  - Added cost?
- Specify extended warranty only if absolutely necessary.

## Technical Specifications

### Service and Maintenance Plans

- Addresses long-term performance and warranty concerns without ambiguity.
- Monthly or quarterly visits with performance testing provides:
  - Multiple opportunities for training of Owner staff
  - Performance verification in all seasons
  - Often at similar or lower cost than rigorous testing at startup
- Structure such that supplier is fully responsible for performance and for maintenance for life of contract.
- Use if long term performance, maintenance, and reliability are a concern.

# Technical Specifications

## Experience

- Experience is important – the more sensitive the project, the greater importance of experience.
- Consider the following in experience clause:
  - Experience with project type
  - Experience in area/region
  - Experience with project size
  - What is the acceptable number of applications in each of these areas?
- Risk/Reward – Inexperienced suppliers can save you money – at what potential “cost” to your project?
- Experience clause particularly helpful with “Pre-Approved Equal” and “Or Equal” specifications.

# Technical Specifications

## Noise

- Noise abatement costs money.
- Consider if really needed.
- Treatment plant? – Probably not.
- Pump station? – Likely.
- Specify a realistic limit.



# Technical Specifications

## Height/Footprint

- Height and footprint restrictions can cost money.
- Redesign can cost money if selected product exceeds footprint used as basis.
- Consider if needed.
- Specify a realistic limit.

# Technical Specifications

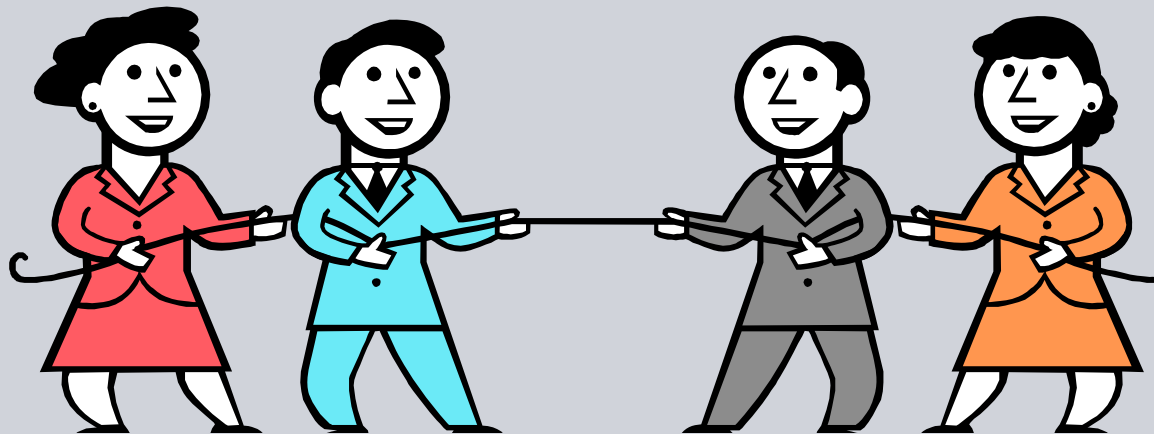
## Specific Components

- Suppliers generally have OEM agreements with suppliers for components:
  - Controls, PLC's, VFD's, Metering Pumps, Fans, Nozzles, Tanks
- Owners may have standard suppliers for these same components
- Specifying one component may drive prices up for one or all suppliers
- Failure to specify a component may cause operation, maintenance, and spare part hardship for the Owner

# Technical Specifications

## Process Details

- In general, specify *performance* and let the suppliers determine how to achieve.
- Specifying performance and process details can lead to specification conflicts.



## Conclusion/Summary

- Know what you are trying to accomplish.
- Choose a format which keeps you in control.
- Write technical specifications to achieve your goal.



## Contact

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