



# *NeSSI - Next Steps*

Turning Vision into Reality



# *May 9, 2001 Agenda*

## *CPAC Sampling Focus Group*

- ◆ Agenda Review and Comments about Monday Session [5 min] Peter
- ◆ Next Steps [20 min] Rob
- ◆ Role of Jim Tatera [10 min] All
- ◆ Life Cycle Cost Model: Traditional vs. NeSSI [10 min] Dave
  - Dave Simko, Swagelok
- ◆ Rosemount-Analytical GCX/NeSSI Test Data [5 min] Carl
  - Carl Jones, Rosemount-Analytical
- ◆ Honeywell Sensor Proposal Outline [5 min.] Ken
  - Ken Creasy, Honeywell



## *Five Steps*

- ▶ Step 1 - Develop a Specification
- ▶ Step 2 - Review the Requirements
- ▶ Step 3 - Refine and Issue
- ▶ Step 4 - Build prototype
- ▶ Step 5 - Field test



## *Step 1 - Develop a Spec*

### ■ Substrate Mounted Sensors

- Assemble sensor specs for P, T, F
- Thermal flowmeter (Honeywell proposal)
- P - absolute, gauge, differential
- T - 100 ohm DIN 385 Pt

### ■ Substrate Mounted “combo” valve

- pneumatic/solenoid actuator
- motorized, variable valve

### ■ Packaged for Div/Zone 1



## *Step 1 - Develop a Spec*

### • Signal based on...

- Wireless Bluetooth/Crossbow
  - 10 Meter/10 mW FHSS
  - Package antennae/chip in each sensor/actuator
  - IEEE 1451.2 TEDS

### • Power Distribution Mini-Bus

- 3 pin, 24 VDC; bussed
- Division 1; “standard” connector/cable
- Power requirements to be defined...



## *Step 1 - Develop a Spec*

### ▸ Substrate Heater

- 120/220 VAC
- Control

### ▸ Enclosure & ambient heater package

- 120/220 VAC
- Control



# *Step 1 - Develop a Spec*

## • SAM ☺

- Bluetooth protocol in - TCP/IP out
- Crossbow Hub/antennae onboard
- transmitter style Div/Zone 1 conduit
- Power supply on board
- PID control for enclosure/substrate/others?
- Mini-processor/Functional applets (TBA)
- SAM Human Machine Interface (TBA)



## *Step 2 - Review the Requirements*

- ▶ Meet with key stakeholders
  - Analyzer vendors
  - Sensor manufacturers
  - Connector manufacturers
  - Substrate manufacturers
- ▶ Define interfaces
  - e.g. analyzer controller attachment
- ▶ Circulate widely...



## *Step 3 - Refine and issue spec*

- Modify based on input from...
  - key stakeholders
  - general review



## *Step 4 - Build Prototype(s)*

### ◆ Integrator provides...

- Substrate assembly
- P, T, F sensor
- “simple” SAM (v.0)
- Power bus
- Wireless sensors/each sensor
- combo actuator
- in a enclosure and substrate heater & controls



## *Step 5 - Field Test the Prototype*

- ▶ ExxonMobil and Dow
- ▶ Test to common report card
- ▶ Address outstanding certification issues