OOI Change Control (ECR) Process
OOI Change Control

- 1000-00000 Configuration Management Plan
- Custom software used for the change control process
  - Create Engineering Change Requests
  - Submit/schedule for Change Control Board
  - Review ECR
  - Vote and complete or push to next board
Engineering Change Requests (ECRs)

• Numbering by SAF (per the CMP)

• 130X-xxxxxx
  • X=0  OOI System
  • X=1  PMO
  • X=2  CI
  • X=3  CGSN/EA
  • X=4  RSN
  • X=5  EPE (not used)
  • X=8  EA (not used)

• Class 1 ECRs
  • Can start at any level but must go to System (maybe NSF) for final approval
  • Schedule changes of more than $25k between control accounts
  • Scheduled changes of more than 60 days
  • Cross IO, science impacts

• Class 2 ECRs
  • Final approval at the MIO level
Engineering Change Requests (ECRs)

**Description of Change** (Include all related systems):
- Make the same measurement using the same technique.
- Same accuracy, similar range, SURA uses smaller path length = better precision & wider range; SUNA has less potential for sensitivity to temperature changes.
- No change to deliverables for science.
- SUNA requires warm-up, ISUS does not.
- Similar but not identical output streams, parser is available, DCL software development needed.

**Reason for Change:**
In the Spring of 2011, OOI put out an RFP for dissolved Nitrate sensors. The contract was awarded to Satlantic, Inc. who proposed the ISUS and Deep SUNA instruments to meet the OOI Nitrate requirements for all platforms. The ISUS was proposed for the “fixed” instruments (Series B), and the Deep SUNA for the Cabled Array problem (Series A). The SUNAs are also incorporated into the CFW (Series M), CPIFR (Series J), and Global Profiling Gliders as part of the Global Surface Piercing Profiler (GSPP) (Fixed B Series K).

In 2011, Satlantic, WET Labs, and Sea-Bird Electronics (SBE) became the new entity Sea-Bird Scientific, and in 2017 all Satlantic instruments were transitioned to SBE and WET Labs. SBE is now producing the Satlantic nitrate instruments. We (the OOI Marine Implementing Organizations – MIOs) have been informed by Sea-Bird that the ISUS instrument is being discontinued and will also be phased out over time. They have recommended that we transition to the SUNA instrument. This will ensure we can continue to get instruments refurbished and recalibrated in a timely fashion.

**Benefit to OOI:**
This change will lead to commonality of instrumentation across the program – all nitrate sensors will be SUNAs. This will ensure we can continue to get instruments refurbished and recalibrated in a timely fashion. We (the OOI Marine Implementing Organizations – MIOs) have been informed by Sea-Bird that the ISUS instrument is being discontinued and will also be phased out over time. They have recommended that we transition to the SUNA instrument. This will ensure we can continue to get instruments refurbished and recalibrated in a timely fashion.

**Description of Impact (Include all related systems):**
- SUNA is long and skinny relative to ISUS, new mounting bracketry required.
- SUNA installation will be coverd by rebudgetting underruns, such as those related to vendor servicing of ADCP, VELOD. VELVET, CAMISS, and NUTNR. This will allow us to procure the initial units right away, and complete the NRE early in 2017 to allow for first deployments in Fall 2017.
- SUNA installation will be covered by rebudgetting underruns, such as those related to vendor servicing of ADCP, VELOD. VELVET, CAMISS, and NUTNR. This will allow us to procure the initial units right away, and complete the NRE early in 2017 to allow for first deployments in Fall 2017.

**Potential Impact to Science and Design / As-built Capability:**
- No change to deliverables for science.
- Similar but not identical output streams, parser is available, DCL software development needed.
- SUNA requires warm-up, ISUS does not.
- Similar but not identical output streams, parser is available, DCL software development needed.

**Scope:**
This proposed change affects WHIC and OSU (UIW only uses the SUNA units). At present, WHIC has 21 ISUS instruments and OSU has 13.

**Benefit to OOI:**
This change will lead to commonality of instrumentation across the program – all nitrate sensors will be SUNAs. This will ensure we can continue to get instruments refurbished and recalibrated in a timely fashion. We (the OOI Marine Implementing Organizations – MIOs) have been informed by Sea-Bird that the ISUS instrument is being discontinued and will also be phased out over time. They have recommended that we transition to the SUNA instrument. This will ensure we can continue to get instruments refurbished and recalibrated in a timely fashion.

**Summary of instrument change:**
- SUNA is long and skinny relative to ISUS, new mounting bracketry required.
- SUNA installation will be coverd by rebudgetting underruns, such as those related to vendor servicing of ADCP, VELOD. VELVET, CAMISS, and NUTNR. This will allow us to procure the initial units right away, and complete the NRE early in 2017 to allow for first deployments in Fall 2017.

**Certification of Technical Data Package and Control System Update:**
Bauke Houtman
Mike Kelly
Signature of CCB Chairperson
jkelly@oceanleadership.org

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**Contingency Schedule (weeks):**
0

**Formal Change Request to Progress System (OQ):**
0

**Percent Impact on OQD element(s) selected:**
- Project Cost: $318,077.50
- Deliverables: 0
- Potential Impact to Science and Design / As-built Capability: 0

**Contingency ID:**

**Date:**
- Project Cost: 4/24/2017
- Deliverables: 4/24/2017
- Potential Impact to Science and Design / As-built Capability: 4/24/2017

**Board Determination:**
- Approved

**Date:**
- Project Cost: 5/3/2017
- Deliverables: 5/3/2017
- Potential Impact to Science and Design / As-built Capability: 5/3/2017

**Board Determination:**
- Approved
Change Control Boards

• PMO/IO Level
  • Chair: Lead Systems Engineer
  • MIO membership
    • PM
    • PS
    • Leads
    • Ops

• OOI System Level
  • Chair: Lead Systems Engineer
  • Members: PMO/IO representation
    • PMs/PIs
    • SEs
    • PSES
    • Quality/Safety/Ops

• NSF Level
  • NSF Program Managers