

# APS ENGINEERING SUPPORT (AES) DIVISION



**JOHN CONNOLLY**

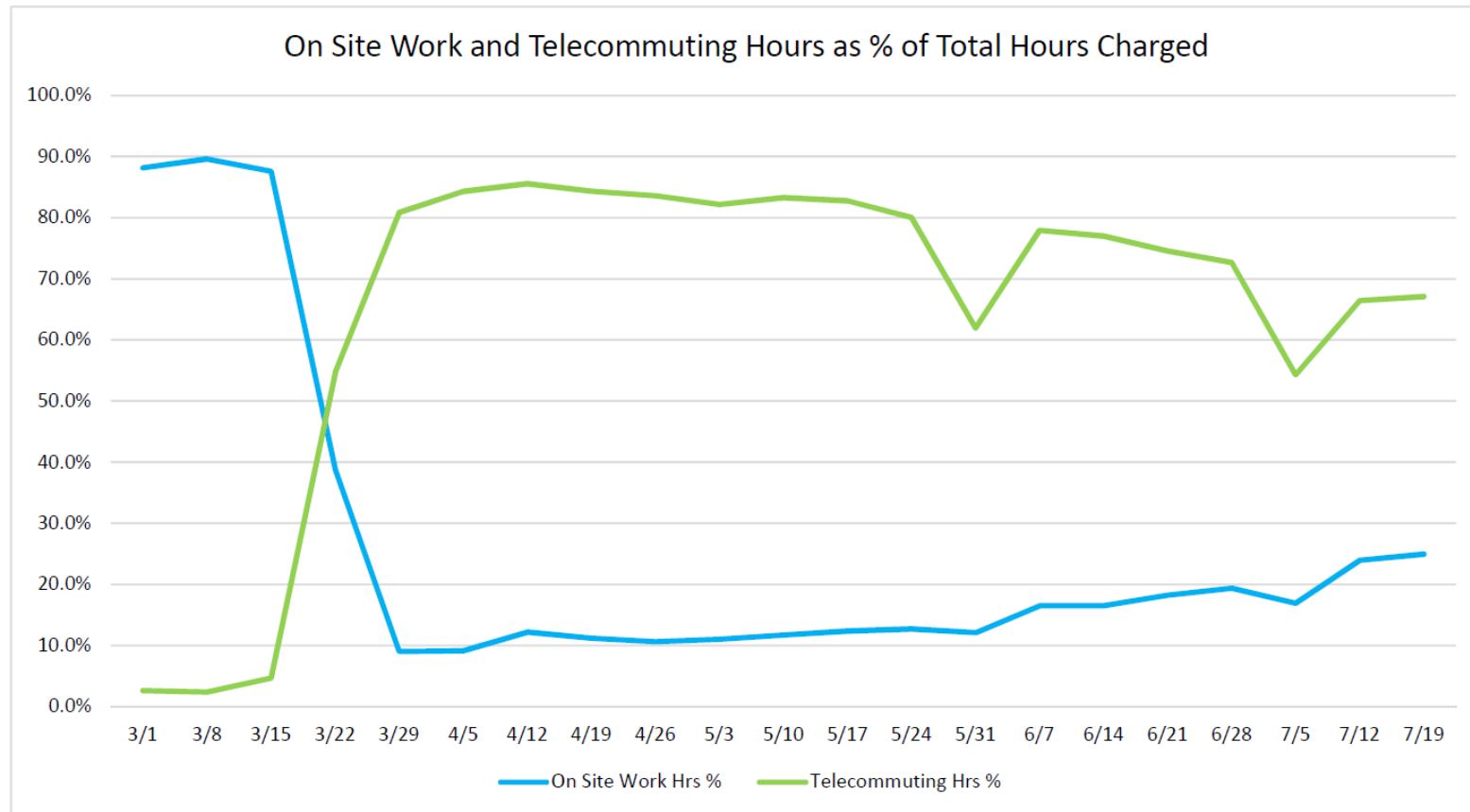
Deputy ALD for PSC Operations  
Division Director, AES

**PSC All-Hands and Priority Meeting**

August 3, 2020

# CURRENT STATE OF THE AES DIVISION

- The COVID pandemic is an unprecedented modern impact.
- It has thoroughly challenged conventional work methods, especially since the APS thrives on and is built for a large, vibrant, onsite work force and user community.
- PSC has been agile in adaptation to the impacts of the pandemic.
- Return to current state of operations has been judicious and measured, and will continue until realization of a “new normal”.



Argonne overall proportion of telecommuting and onsite work since March 1 2020.

# AES DIVISION STRATEGY

## Agile Support Role

- Achieve safe, cost effective operations in meeting the mission of our sponsor
- Provide divisional resources to the APS Upgrade project to achieve planned milestones
- Promote an adaptive nature, in meeting the changing needs of users and facility operations

## Operational Excellence

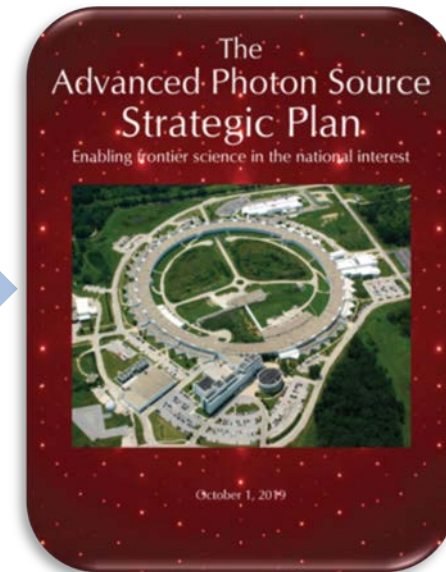
- Continue to practice ISM principles with a heightened conviction towards safety and risk
- Manage APS assets in pursuit of highest possible machine reliability
- Adhere to core process fidelity and optimization to operate as one integrated facility

## Engineering Excellence

- Endorse a concise and documented governance model with accountability
- Develop innovative and novel designs, questioning the status quo
- Enable engineers, designers, technicians with state-of-the-art toolsets

## Human Capital

- Strong partnership with APS Human Resources team to promote continuous workforce development
- Develop a comprehensive and integrated set of talent management strategies
- Maintain an inventory of critical skills with associated actions to close skill gaps



# FY2020+ PRIORITIES

## ▪ Safety leadership

- Reinforcement of stop work authority and obligation to comply with called stop work
- Model PSC safety practices, e.g. pre-job briefs, high risk work reviews
- Perform impactful observation/conversations, SMART Card targeted observ. and trending

## ▪ Ensuring cost effective operations

- Capture of high priority PMO projects, resourcing and funding through SMT, when required
  - Addressing larger facility-scale obsolescence and reliability concerns; standardization where possible, and those efforts needed in preparation for APS-U
- Overseeing execution of those required facility upgrades identified on APS 400-Area Infrastructure Master Plan
- Continuing robust preventative maintenance cycles, completed on schedule

# FY2020+ PRIORITIES

## ▪ Divisional support of APS Upgrade Project

- AES is majority of matrixed support
  - FY20 ERA of ~58.7 FTEs
- AES will continue to have high involvement in APS-U milestone activities:
  - Design completion, procurement and vendor oversight
  - Receipt inspection and testing of first article and production components
  - Future installation effort
  - Numerous work scopes in preparation for APS-U scheduled dark time



*Air and water installation at 28-ID B-hutch*

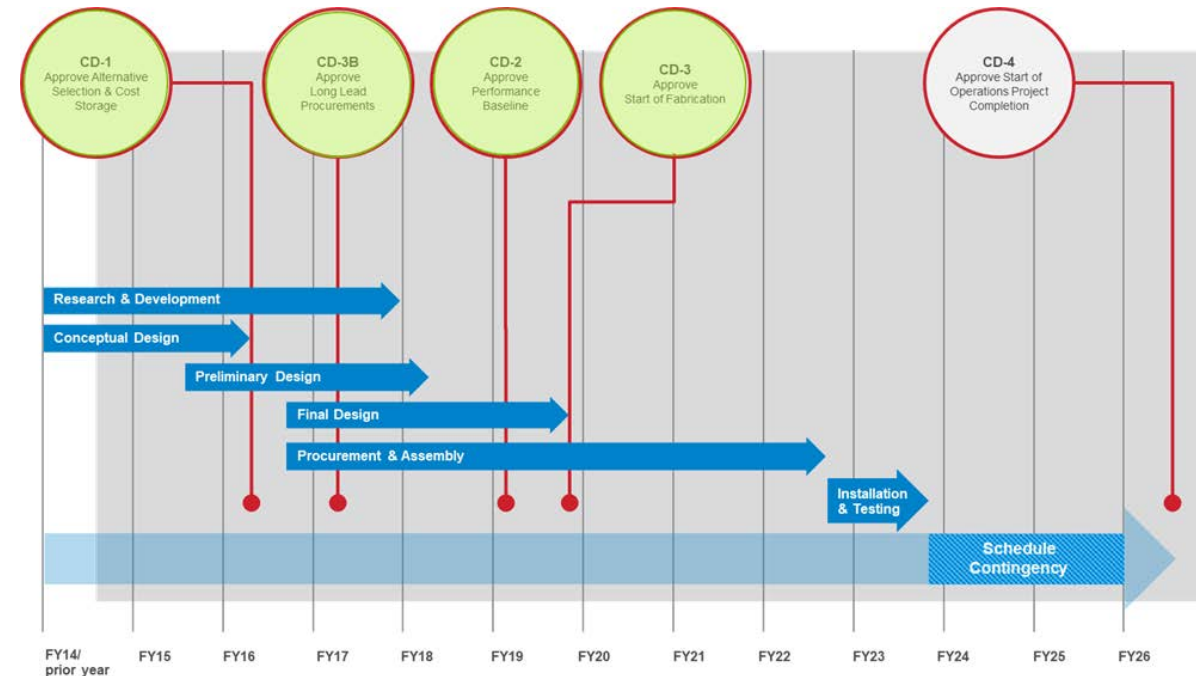
*PAR  
harmonic  
test cavity  
being  
assembled*



# FY2020+ PRIORITIES

## ▪ Seamless performance on shutdowns as well as PSC project efforts

- 6 shutdowns remaining before June 2022
- Requires structured work planning and control through IPECC phases of a project
  - Rigor in planning and risk identification in proposal submission,
  - Accurate estimates to complete and, if awarded, unified execution, validation, closeout



APS-U schedule outline as of July 2020

- APS-U scope will continue to increase in next and future shutdowns.

- Aug/Sept 2020: Sector 25 work scope inclusive of FE installation, removal of gas injection test system, vacuum chamber and undulator installation

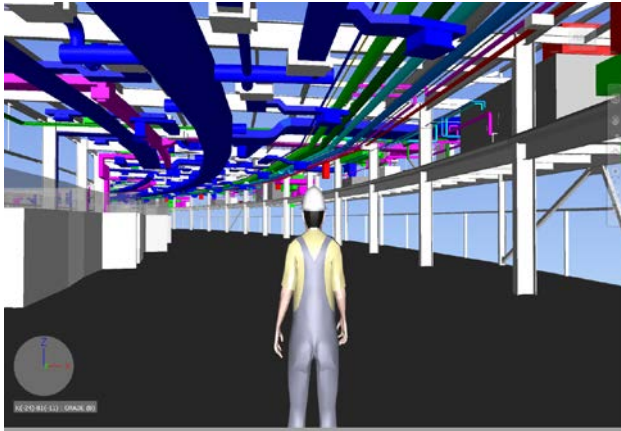
# FY2020+ PRIORITIES

## ▪ Progress towards becoming Centers of Excellence: Operations and Engineering

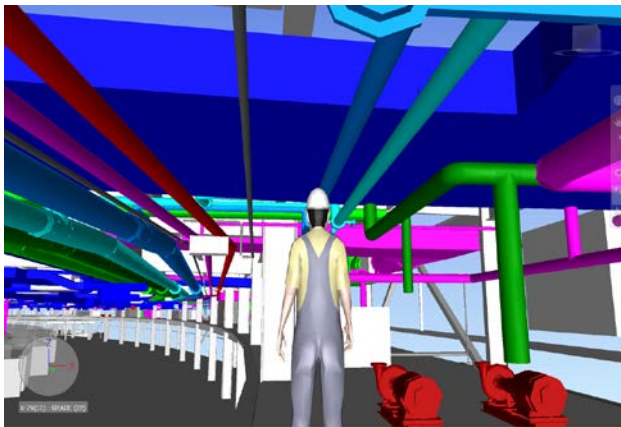
- Machine reliability and uptime metrics as high as reasonably achievable before dark time
- Execution of PMO (SMT) projects to address APS-U readiness and obsolescence
- Core process adherence and continuous improvement
  - ServiceNow: Work request, group ticketing, shutdown planning, project proposal systems
  - Clear application of DOE Configuration Management (DOE-STD-1073) principles:
    - Management Assessment: Three year review planning already performed
    - Design Review: Adherence to Design Review process and Committee structure
    - Document Management: DMS use and convention
    - Configuration Control: Integration of CDB into Operations; facility-wide config. mgmt. program
    - Readiness Reviews: Codifying Readiness Review, Commissioning Review and Transition to Operations processes more clearly for Operations
    - Work Planning & Control: Use of Aware for WCD creation/revision, approval and authorization

# FY2020+ PRIORITIES

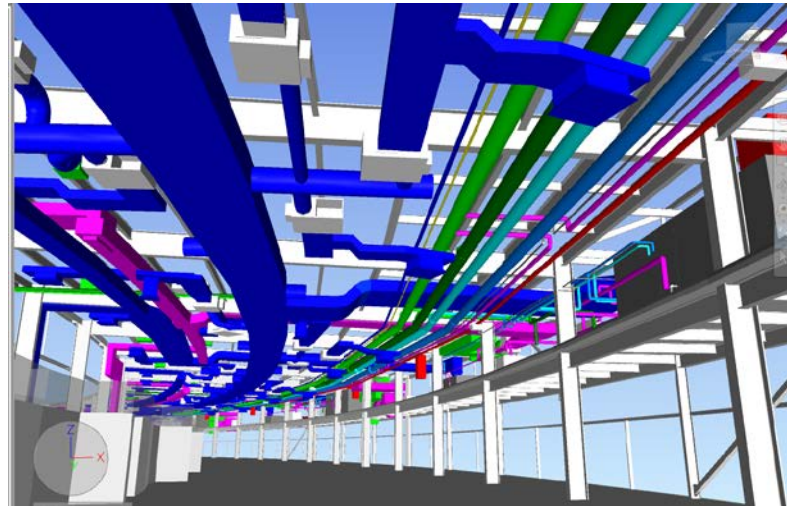
- **Progress towards becoming Centers of Excellence: Operations and Engineering**
  - Novel advances in state-of-the-art tool sets available to APS Operations and APS-U



Experimental Floor Mechanical



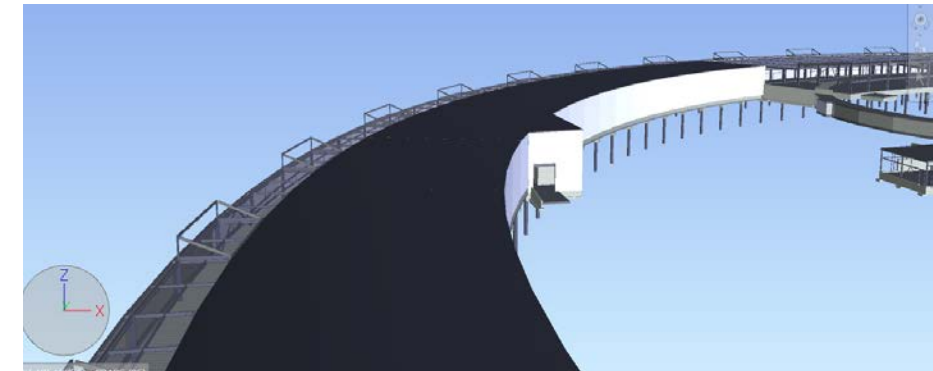
Mechanical Mezzanine



Experimental Floor Mechanical



Facility Scans Utilized for As-Built Conditions



Overall Facility Layout in REVIT



# IMPACT ARGONNE AWARDS



- *Supplemental run time ahead of 2020-1, for first COVID experiment on Jan 28, 2020*

Yoongchang Kim, Changsoo, Chang, Alex Lavens, Darren Sherrell, Krzysztof Lazarski, Nena Moonier, Ashley Wayman, Clay White, Dan Schabacker (EGS-SSS), Vadim Sajaev, Louis Emery, Karen Schroeder, Randy Flood, Dmitriy Ronzhin, Lisa Berkland

- *Modeling Core Values in all aspects of contributions to COVID research at the APS*

Nena Moonier

- *Rapid expansion to enable end stations for additional mail-in and remote*

Steve Bogdan, Elroy Chang, Bruno Fieramosca, Shane Flood, Michael Fries, Cassandra Hayden, Michael Henry, Beth Heyeck, John Mazzio, Susan Rhodes, Liz Schmidt, Wendy VanWingeren, Ashley Wayman, Jacob Weeks, Clay White

Thank You

# IMPACT ARGONNE AWARDS



- *Achievements of the Argonne Work Sharing Program*  
Leonard Morrison
- *Numerous AES personnel cited for their extraordinary effort in APS-U work scopes*  
Will be recognized as part of the APS-U portion of this presentation

Thank You