Presentation Objectives

- Learn how PG&E has adapted to the challenges involved in decommissioning a nuclear power plant and hear about some of the innovative solutions we've applied.

- Assess the major achievements that have been made during the decommissioning program at Humboldt Bay this past year including:
  - License Termination Plan approved by the U.S. Nuclear Regulatory Commission May 2016
  - PG&E Sibley Award received at HBPP for Safety May 2016
  - PG&E Final Site Restoration permit approved by the California Coastal Commission April 2016
PG&E Site Overview

- Close to the community
- Very small footprint
- Many projects at same time
- Adjacent to Humboldt Bay
- Remote Northern CA
The reactor vessel is located inside the drywell below grade within the Refueling Building.
And Close Proximity to the Bay
First and Foremost Safety at HBPP

- Continue making safety the #1 priority
- Twice completed more than 1,000 Safe Work Days
### Understanding Our Safety Culture

#### PRINCIPALS
- Everyone is responsible
- Making the work place a safe place
- Preemptive in lieu of reactive
- Stop work authority

#### DEMONSTRATE
- Management briefing prior to badging
- Senior leadership walk downs
- Posters of our family throughout site
- Walk the talk

#### EXPERIENCE
- Continuity across successful projects
- Bring right resources at right time
- Planning the work is essential
- Supervision and Oversight

#### ASSESSMENT
- Benchmarking
- Management Observation Program
- Adverse Trending
- Continually Evaluate Risk
One Permanent Building Remaining

Tremendous progress being made in the field – and it's all about the team.
Project Planning Process
Discharge Canal Remediation
Turbine Building Substructure Removal

2012 - 2013

2015 - 2016
East Yard Pre-Trench Concrete Removal

Timely execution to allow continual CSM wall installation at the east end of the Refueling Building
Perform high risk high contamination demo early in lieu of at end of project

RP monitoring established baseline to allow open air demo of RFB and caisson

LRW demo demonstrated that the theoretical open air demo procedure was very conservative

Limits were raised based on the effectiveness of water sprays

Based on the empirical data, eliminated over 21 locations in the RFB that were designated to be shaved or scabbled before open air demo
The Last Active Operating Systems

Stack Monitoring and Building Ventilation
Refuel Building Prep and Demolition

Commence RFB Demo

West and North Scaffolding

Demo Stack Base

RFB 75T Bridge Crane

West and North ready for Asbestos Contaminated Material (ACM) Removal
Completed CSM Wall Installation 255 Panels

DEEPEST APPLICATION OF CSM DRILLING EVER PERFORMED IN THE WORLD USING KELLY BAR EQUIPPED MACHINERY
Starting the First Panel
Key Caisson Removal Mitigation Tasks

- Execute Strong Contract Management
- Transition to Civil Works Project
- Implement Stringent Oversight
- Optimize Health and Safety Performance
- Job Specific Activity Hazards Analysis
- Obtain Relevant Subject Matter Expertise
- Optimize Excavation Stability
- Design Verification
- Top Lander/Spotter Logistics Coordination Plan
To evaluate alternate means and methods to further reduce the risk of a traffic accident or incident associated with the preparation, loading, and transportation of solid waste from HBPP.

SWEETS – Solid Waste Efficiency and Expediency Test Shipments
HBPP Insights and Key Strategies

- Always work toward earn value
- Be flexible - things change · opportunities arise
- Having the right resources and bandwidth
- Understand work control and oversight
- Do not underestimate site infrastructure needs
- Well vet your decommissioning cost estimates
- Establish a good regulatory and community relationships
- Mock-ups do work and are a prudent investment
- Deliver on promise, communications and alliance
Person-Rem for Various U.S. Plants

PG&E anticipates that the total decommissioning exposure will be less than 80 Person-Rem, setting a very high standard for future decommissioning total exposures.
SAFETY FIRST

IFIC GAS AND ELECTRIC COMPANY
HBPP Decommissioning Project
We Are One Team
Congratulations HBPP
Fossil Ops & Nuclear Decom
1000 Days - No Recordable Injuries

THANK YOU