Bureau of Safety and Environmental Enforcement

BSEE BAST Determination Process

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OOC General Meeting

December 2, 2015

New Orleans, Louisiana

"To promote safety, protect the environment and conserve resources offshore through vigorous regulatory oversight and enforcement."

What BAST?

Outer Continental Shelf Lands Act (OCSLA)

"..on all new drilling and production operations and, wherever practicable, on existing operations, the use of the best available and safest technologies which the Secretary determines to be economically feasible, wherever failure of equipment would have a significant effect on safety, health, or the environment, except where the Secretary determines that the incremental benefits are clearly insufficient to justify the incremental costs of utilizing such technologies." (43 U.S.C. 1347(b))

Development of BAST Process

Deepwater Horizon investigations

Ocean Energy Safety Advisory Committee - Federal Advisory Committee Act

- Identify and prioritize technologies;
- Include expertise from all sectors;
- Not endorse specific products but provide a basis for establishing appropriate performance standards;
- Focus on technologies, equipment, and/or processes that are most critical for safe operation;
- Evolve as new technologies develop.

Program Objectives

- Compliance with statutory mandate
- Focus on technological solutions to safety issues
- Focus on safety critical equipment issues
- Establish performance levels based on evaluation of available technology
- Consistent and verifiable testing
- Transparent process
- Stakeholder engagement
- Satisfies cost/benefit

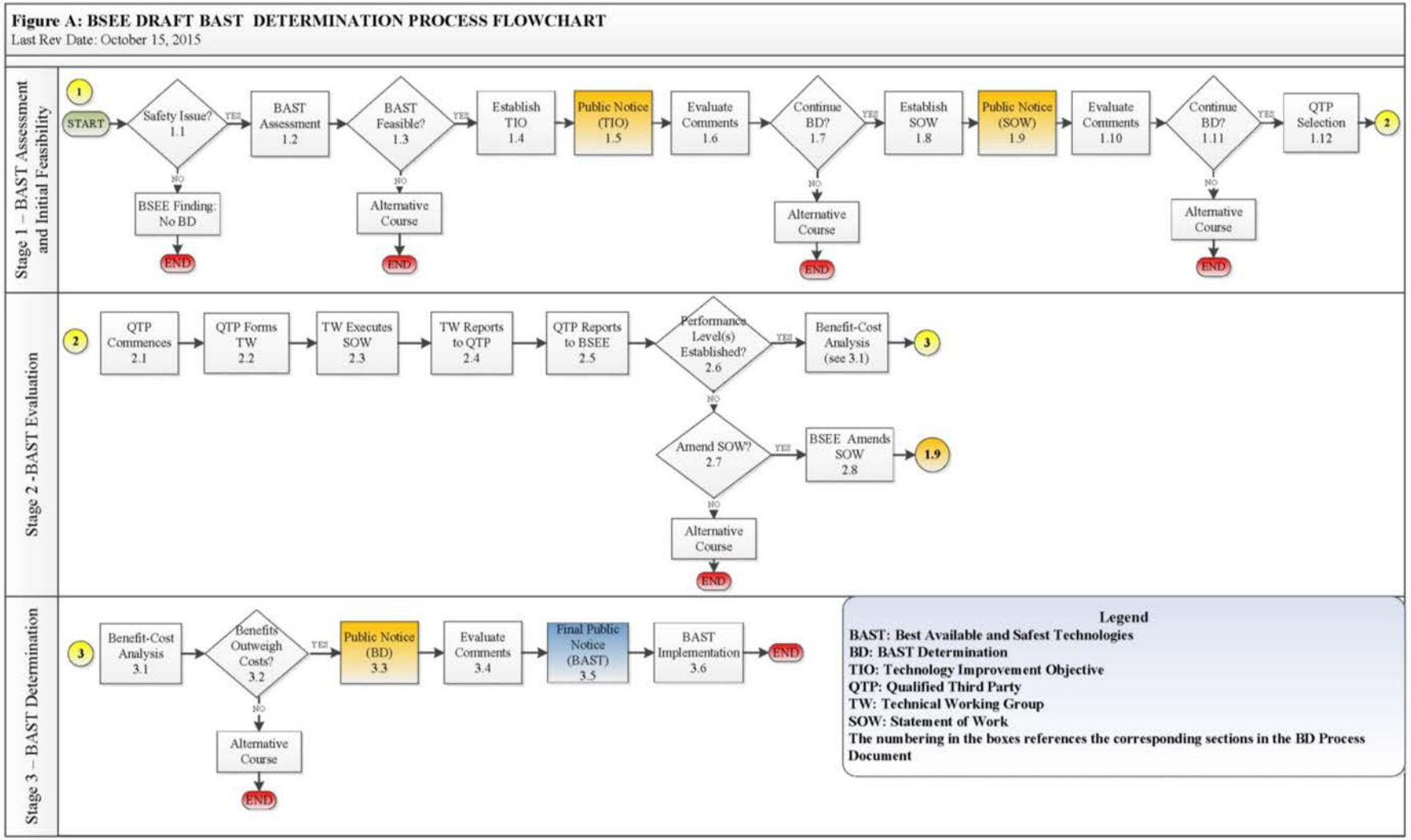
BAST process will NOT result in:

A prescriptive technology

An automatic phase-out of existing technology

An automatic review of existing systems and technology

BAST Determination Process Flowchart



BAST Determination Process

Overview

Stage 1 - BAST Assessment & Initial Feasibility

- BSEE evaluates circumstances leading to a BD
- BSEE crafts a Technology Improvement Objective (TIO)
- BSEE establishes Statement of Work (SOW)
- BSEE issues Public Notices requesting comments
- BSEE selects Qualified Third Party (QTP)

Stage 2 - BAST Evaluation

- QTP manages evaluation
- QTP forms Technical Workgroups (TW)
- TW executes SOW
- BSEE reviews findings from QTP & TW

Stage 3 - BAST Determination

- BSEE conducts economic Benefit-Cost Analysis (BCA)
- BSEE issues Public Notice requesting comments
- BSEE issues Final Public Notice
- BAST requirement needs to be implemented on the OCS

BAST Determination Process

Stage 1 - BAST Assessment and Initial Feasibility

Annual assessment by Director to determine if safety issues (incidents, accidents, near misses) warrant BD

If a Safety issue has been identified, BSEE conducts an assessment to determine if a BD could resolve such an issue by evaluating the following:

- **Technology Failures**
- **Improvements in Safety**
- **Availability of Technology**
- **BSEE Resources**
- **Initial Economic Feasibility**

BAST Determination Process

Stage 1 - BAST Assessment and Initial Feasibility

BSEE develops a TIO which articulates the safety issue in the form of a question stating what HSE improvement the agency is seeking and solicits comments through one of the following:

- **Notice to Lessees (NTL)**
- **www.BSEE.gov**
- **Federal Register**
- **Public Forum**

BAST Determination Process

Stage 1 - BAST Assessment and Initial Feasibility

BSEE issues SOW which includes the TIO, tasks, timeline, and solicits comments

BSEE contracts one or more QTP to implement SOW

Who can be a QTP?

- **OESI**
- **Standard Development Organizations (SDO)**
- **Certifying Entities**
- **National/Private Labs**

BAST Determination Process

Stage 2 – BAST Evaluation

QTP responsibilities include:	Form TW(s) to evaluate solutions to SOW
	Identify scope of testing/additional data needed by TW
	Provide oversight of third party testing/statistical analysis
	Develop budgets/timelines
	Perform outreach to industry
	Review TW work, reports, & ensures SOW is addressed
	Provide BSEE with TW final report

TW composed of individuals with appropriate technical expertise for task at hand

BAST Determination Process

Stage 2 – BAST Evaluation

TW develops the Functional (Operational) Requirements (**FoR**)

FoR may include:

-physical requirements

-environmental conditions

-maintenance concerns

-quality issues

BAST Determination Process

Stage 2 – BAST Evaluation

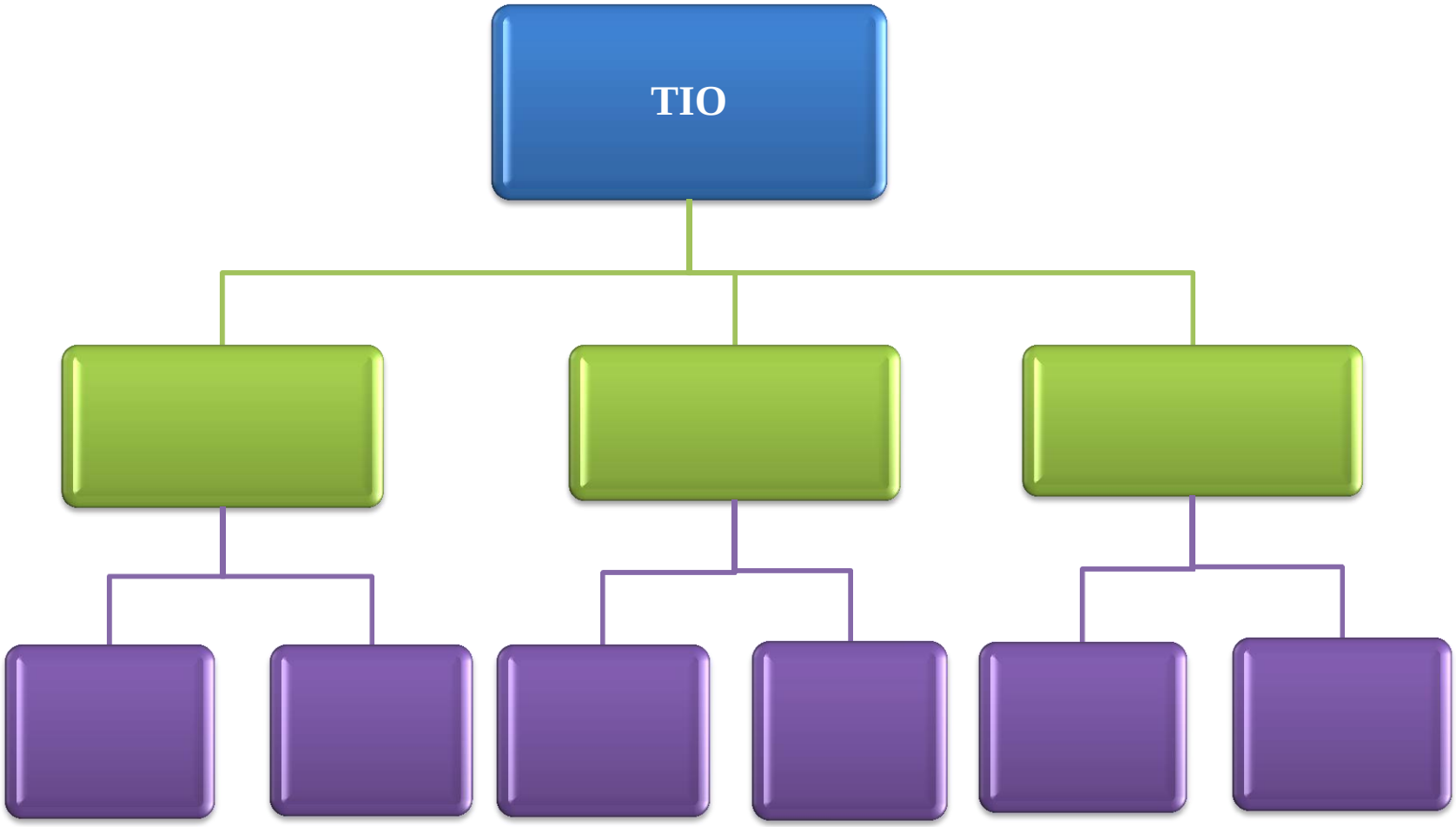
TW Establishes Performance Levels (**PL**)

PL ***specifies how well a technology executes its' intended function*** as determined thru testing and/or evaluation of operational history

PL must demonstrate repeatability & reproducibility

TW compares/assesses **PL** of various technologies that meet **FoR**

TIO, FoR, and PL Relationship



BAST Determination Process

Stage 3 – BAST Determination

BSEE performs a BCA consistent with OCSLA

If Director determines that implementation of proposed PL meets BCA then the Agency solicits comments through Public Notice

Public Notice includes the proposed TIO, PL, and BAST implementation schedule

BAST Determination Process

Stage 3 – BAST Determination

After evaluating comments from Public Notice BSEE determines if it should proceed with BD implementation.

If BSEE decides to implement a BD the agency will release a final decision to this effect.

After a BD is effective, operators will be required to use technology that meets specified PL for new and, *wherever practicable* existing operations.

Operators may request waiver for new BAST requirement(s) for existing operations by submitting the appropriate documentation to BSEE.

BAST Determination Process

Alternative Course Methods: Addressing Technology Failures Outside of the BD Process

Issue BSEE “Safety Alert” or similar Industry “Alert/Notice”,

Development by BSEE or Industry of revised maintenance, inspection, and/or operational procedures,

BSEE or Industry R&D,

Development by Industry of new/revised standards or incorporation of such in BSEE regulations,

Implementation by BSEE of conditions of approval for use in plans/permits,

Development by BSEE of new/revised regulations

BDP Summary

Takeaways

- Three distinct stages
- Performance based
- Transparent process – 3 Public Notices requesting comments
- Triggers – domestic/international safety issues
- Technology driven

TAP R&D Projects: Proposed for FY2016

Artic Research

- Ice Monitoring & Tracking
- Ice Breakup Studies

Safety and Technology Verification

- Design Life Extension of Critical Components
- Wireline Safety
- High Pressure High Temperature (HPHT GOM Mapping)
- Cementing Alternatives (Resins)
- Electrical Safety (Comparative Assessment of NEC vs. IEC Concepts & Practices)

TAP R&D Projects: Proposed for FY2016

Safety and Technology Verification (Cont.)

Subsea Bolt Performance
Oil and Gas Seeps (Santa Barbara Channel, CA.)
Linear Seal and Cement Studies (Single or Dual Barrier)
Swabbing of a Well while Drilling in Areas of Known Shallow Gas
Decommissioning (Pipeline)
Decommissioning (Fixed Facility)
Well Decommissioning (Cost Estimation)
New Material Properties

BSEE Website: www.bsee.gov

BAST Website:

http://www.bsee.gov/About-BSEE/Divisions/OORP/Best-Available-and-Safest-Technologies/

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