Bureau of Safety and Environmental Enforcement

Decommissioning Liability Assessment Workshop

Kevin J. Karl
Deputy Regional Director
GOMR
August 25, 2016

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BSEE Agenda

1:00 – 2:30 Global Update of BSEE GOM Decommissioning Estimates

- General Overview/Potential Impacts (Kevin Karl)
- Assessing Costs at Permit Stage vs Plan Stage (Kevin Karl)
- Current and Upcoming Assessment Process (Fung Hassenboehler)
- Well/Platform/Pipeline Costs (Mark Harbison)

2:30 – 2:45 Break

2:45 – 4:15 NTL 2016-N03 (Mark Harbison)

Global Update of BSEE GOM Decommissioning Estimates

General Overview/Potential Impacts:

- Current estimates are expected to be updated (wells, platforms, pipelines) on August 29th
- Removing cost estimates that were based on proposed wells submitted in past Plans (EP/DOCD)
- BSEE will now assess costs upon receiving:
  - Applications for Permit to Drill
  - Applications to install platforms
  - Applications to install pipelines

General Overview/Potential Impacts (Cont.)

- Following global update on August 29th, BSEE will be in a position to update costs on a frequent basis (e.g., daily)

- Subsequent decommissioning cost updates will include:
  - Costs for wells, platforms, and pipelines for permits/applications received since last update
  - Removal of costs for decommissioning activities completed since last update
  - Status changes (e.g., completed well to PA'd well)

- BOEM to be notified upon BSEE updates in internal system

General Overview/Potential Impacts (Cont.)

How does industry obtain the cost estimates?

- All BSEE updated estimates will be available to industry via the online query as currently done (August 29th)
  - Lease Number
  - Area/Block
  - ROW Number
  - RUE Number
- Upon global update and for any subsequent updates, the online query will contain the most recent cost estimates
- Information available to industry will be expanded (e.g., proposed well costs, proposed platform counts, separates pipeline removal costs from site clearance, etc.)

General Overview/Potential Impacts (Cont.)

Basis for change in BSEE estimates includes:

- Actual costs submitted per regulation and NTL 2016-N03
- BSEE commissioned studies
- Challenges from industry
- Industry publications and academic research
- Operator presentations to bankers/analysts
- Data from operators gathered as part of bankruptcy processes
- Professional experience

General Overview/Potential Impacts (Cont.)

What costs stay the same for the upcoming August 29th update:

- Current estimates for pipelines in:
  - WD > 300 feet
  - Fairways
  - Sand resource areas
- Platforms where WD > 400 feet (including floaters)
- Dry tree wells where WD > 400 feet
- Subsea wells where WD <= 400 feet
- Subsea wells where WD > 400 feet with COM status
- Site Clearance and Verification

General Overview/Potential Impacts (Cont.)

What costs change for the upcoming August 29th update:

- Large decrease due to exclusion of Plan well estimates
- Decrease on shallow water pipeline segment estimates (WD <= 300 feet) not related to navigation fairways or sand source areas.
- Increase on shallow water wells (WD <= 400 feet) with the exception of wells with TA status and SCPs in place
- Increase on shallow water fixed platforms (WD <= 400 feet)
- Decrease on subsea wells (WD > 400 feet) for all statuses except COM status.

General Overview/Potential Impacts (Cont.)

Overall impact on a lease, ROW, RUE basis:

- Lease Total: Decrease ~ $5 billion
- ROW Total: Increase ~ $450 million
- RUE Total: Increase ~ $372 million

General Overview/Potential Impacts (Cont.)

- For transparency purposes and for planning purposes, BSEE decommissioning estimates for wells are being provided today
- Due to the number of variables associated with Platforms and Pipelines, estimates cannot be pre-determined
- Further refinement of all costs once we receive more actual decommissioning expenditure data
  - Any updates to algorithms isn't expected more than annually

Assessing Costs at Permit Stage vs Plan Stage

- "Conditioned" APDs will be given
- If a BOEM demand for additional security is received prior to the commencement of drilling:
  - Drilling cannot commence until compliance with the BOEM demand
  - Violation will result in INC, shut-in, and/or other enforcement measures

Assessing Costs at Permit Stage vs Plan Stage (Cont.)

- Conditioned “approvals” will also be given for:
  - Applications to install platforms
  - Applications to install pipelines
- If a BOEM demand for additional security is received prior to installation:
  - Installation cannot occur until compliance with BOEM demand
  - Violation will result in INC and/or other enforcement measures

Assessing Costs at Permit Stage vs Plan Stage (Cont.)

- Industry assumes risk
- Strongly encourage industry to engage and submit additional security in advance of any BSEE submittals when needed:
  - Primarily APD submittals but also for Platforms and Pipelines
  - Ensures activities can commence timely
  - BSEE well estimates are know in advance
  - Lease, ROW, RUE level estimates will be updated, posted, and available from the online query

Questions?

Bureau of Safety and Environmental Enforcement

Current and Upcoming Assessment Process

Fung C. Hassenboehler
Chief, Decommissioning Support Section
August 25, 2016

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Questions and Responsibilities

- Lessee or Operating Rights Owner – BOEM
- ROW holders – BSEE Pipeline Section
- Decommissioning Status and Data Discrepancy
  - Wells – BSEE District Offices
  - Pipelines – BSEE Pipeline Section
  - Platforms – BSEE Office of Structural and Technical Support
- Estimated Decommissioning Cost – BSEE Decommissioning Support Section

Important Updates

- Separate the assessment of platform removal costs and site clearance costs
- Pipelines with “ABN/REM” decommissioning status code
- Pipelines that may require removal
- Approved/pending permit applications will be assessed
  - Cancellation Status

Current - Decom Liability Assessment Triggers

Triggers for Routine Assessments:	Triggers for Companywide Assessments:
Lease Assignments Plans (DOCD and EP) Bond Cancellations ROW Assignments Industry Requests	Requested by both: BOEM's Risk Management Operation Group BSEE's ORD

Upcoming - Decom Liability Assessment Process

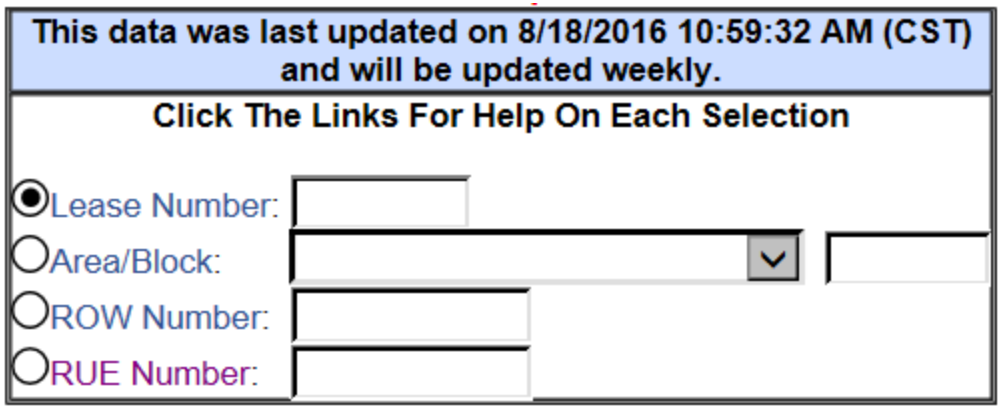
- After the initial global update, all Leases, RUEs, and ROWs will be reassessed frequently.
- Only the ones that have liability valuation changes will be updated.
- Common reasons for liability valuation changes:
  - Installation
  - Decommissioning
  - Modification to wells, platforms, or pipelines
  - Permit application status changes
  - Changing algorithms
  - Data changes

Current - Decom Liability Public Information

Site Clearance	Platform Removal Count	Platform Removal Cost	Borehole Plug Count	Borehole Plug Cost	Total P&A Liability
$4,520,000.00	2	$3,110,000.00	21	$3,300,000.00	$10,930,000.00

- The estimated decommissioning liabilities for each lease/rue/row are recorded by the following categories:
  - Site Clearance – includes both platform site clearance cost and pipeline decommissioning cost
  - Platform Removal Cost
  - Borehole Plug Cost – includes both existing and Plan wells
- The system default “Platform Removal Count” and “Borehole Plug Count” recorded in our website are generally not representative of the number of platforms and wells assessed.

Current - Decom Liability Public Information



- Thursday, August 18, 2016, is the last day we performed decommissioning liability assessments using the ‘current’ assessment process.

Upcoming - Decom Liability Public Information

TOTAL DeCom Liability	Boreholes Plug Cost (Spud Wells)	Boreholes Count (Spud Wells)	Boreholes Plug Cost (Prop Wells)	Boreholes Count (Prop Wells)	Platforms (Installed) Decom Cost	Platforms (Installed) Decom Count	Platforms (Installed) Site Clear Cost	Platforms (Installed) Site Clear Count	Platforms (Prop) Decom Cost	Platforms (Prop) Decom Count	Platforms (Prop) Site Clear Cost	Platforms (Prop) Site Clear Count	Pipelines (Installed) Decom Cost	Pipelines (Installed) Count	Pipelines (Prop) Decom Cost	Pipelines (Prop) Count
$10,930,000	$3,300,000	21	$0	0	$3,110,000	2	$940,000	0	$0	0	0	2	$3,155,000	4	$425,000	1

- Wells
  - Well Status Code
- Platforms
  - Installation Date
  - Removal Date
  - Site Clearance Date
- Pipelines
  - Status Code

Association with Leases/ROWs/RUEs

- Leases
  - Wells – bottom hole lease
  - Lease Term Pipelines – originated lease (if lack of originated lease, then destination lease)
  - Platforms – surface lease
- ROWs
  - ROW pipelines
  - ROW accessory platforms
- RUEs
  - Platforms used for the RUE purpose
  - There should be no pipelines or wells assessed on the RUEs.

Association with Leases/ROWs/RUEs

- How are the liabilities assigned during asset authority transfers?
  - Both the proposed authority and the existing authority will be assessed.
  - Once the proposed authority is effective and the existing authority is terminated, the liability will be assessed to the latest effective authority.
    - ROW assignments
    - Platforms transferring from Lease authority to RUE authority

Questions

- Questions or requests related to decommissioning liability assessment
  - BSEEDecommLiability@bsee.gov

Questions?

Well/Platform/Pipeline Costs

M. Mark Harbison
Petroleum Engineer
GOMR Decommissioning Support Section
August 25, 2016

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Decom Cost Changes - Overview

- Well and structure/facility decom cost methods / algorithms have not materially changed since 2011.
- The current pipeline segment decom methodology, in place since 2012, results in estimates that are unreasonably high for segments where WD <= 300ft
- Well decom costs as function of wellbore status have been made more internally consistent. Generally, COM status wells will have one value while all other statuses will see a 33% discount to COM status wells.

Decom Cost Changes - Wells

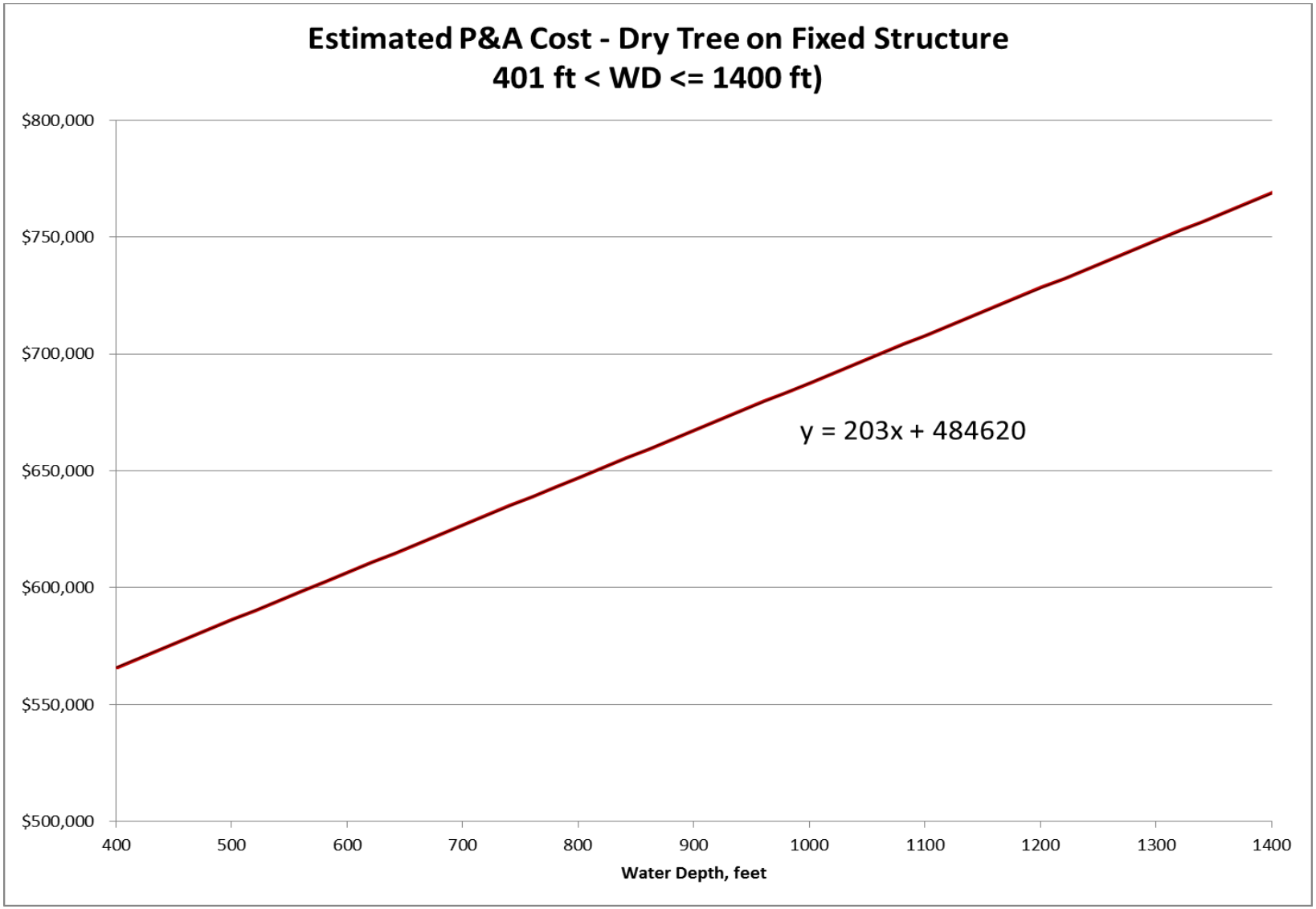
- Dry tree wells on fixed structures in WD <= 400' → $450,000 for all wells except TA status wells with surface casing plug and any well with TA status date before April 5, 2011 → $150,000
- Dry tree wells on fixed structures in WD > 400' → linear function of depth ranging from $565,000 to $770,000
- Dry tree wells on floating structures → $2,056,000 for all well status except TA which is $1,325,000 (no change)
- Wet trees in WD <= 400' → $2,500,000 regardless of well status
- Wet trees in WD > 400' → $ 13,250,000 for all statuses except COM which is $20,559,000

Decom Cost Change Plans – Structures and Pipelines

- Structure decom estimate changes are only applicable to fixed structures in WD <= 400 ft. No changes in SC&V cost estimates are planned. Operators can expect fixed structure decom assessments to increase substantially.

- Pipeline segment decom cost estimates for WD <= 300 ft will be based on regression analyses of data gathered from operators as part of the estimate challenge process. Segments in WD <= 150 ft use one resultant equation while those 150 ft < WD <= 300 ft use another. There will be no change in estimated decom costs for those segments that cross navigation fairways or sand source areas and there are to be no changes pertaining to segments in WD > 300 ft.

Well Decommissioning



BSEE Decom Mailboxes

Questions or requests related to decom liability assessments:

BSEEDecommLiability@bsee.gov

Questions?

BSEE Implementation of NTL No. 2016-N03

M. Mark Harbison
Petroleum Engineer
GOMR Decommissioning Support Section
August 25, 2016

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Key Concepts

- The fundamental elements of any BSEE decom estimate are single well P&A costs, single platform/facility removal costs, single site clearance and verification cost, and single pipeline segment decom costs.

- BSEE estimates assume that all decom activities are performed on a “one off” basis rather than as part of a campaign or multi-asset project. Stated another way, no scale economies are recognized as BSEE has no means to determine when and in what order multi-asset decom projects will occur.

- Lease, ROW and RUE decom liability estimates are built up by summing the appropriate well abandonment, platform/facility removal, SC&V, and pipeline segment decom costs.

Key Concepts (CONT)

- Prior to this NTL, BSEE had essentially no current, actual decom cost data. Until sufficient actual decom data is collected (the purpose of the NTL), BSEE will continue to use algorithms/methodologies based on:
  1. BSEE commissioned studies
  2. Industry publications and academic research
  3. Operator presentations to bankers/analysts
  4. Data from operators gathered as part of cost challenge/bankruptcy processes
  5. Professional experience
- The goal of this NTL is to allow BSEE to gather and analyze actual data in order to reduce estimate uncertainty which, in turn, generally translates to minimized estimates.
- BSEE needs estimates that provide more certainty than that of the mean, median or most likely. No BSEE official wants to have to say, "We thought there was a 50% chance that the bond amount would cover the actual cost."

Key Concepts (CONT)

- Should decommissioning liabilities ultimately fall to BSEE, the final cost will be higher than otherwise as BSEE would have to contract with a third party to perform the work, the cost of which would include profit and risk assumption components for the contractor.

- BSEE aims to arrive at a “fair value” decom cost estimate that reasonably approximates the amount a third party would demand to assume the decom obligation today. This is entirely consistent with the ARO calculation guidelines of SFAS 143.

Cost Allocations and Classification

- Except for the most simple decom projects, allocation of costs among decommissioned assets is unavoidable. BSEE does not intend to dictate how allocations are made, but only requires that they be made in good faith, consistent with best practices under GAAP and COPAS guidelines.

- COPAS publication Classifications for Summary Form Billing© (MFI-26) recommends classification of substantially all decom costs under the account Retirement and Abandonment (R&A) Expense. BSEE requires that this expense category be expanded to four accounts for reporting purposes:
    1. Transportation and Staging
    2. Location
    3. Contract Services, Lifting, Diving and Service Units
    4. Other Decommissioning Related Costs

- Examples of costs appropriate to each of the four accounts above are detailed in the NTL

Cost Allocations and Classification (CONT)

- Project invoices received from contractors for a broader range of services provided on a lump sum basis will require that the operator and contractor work together to ensure that costs are correctly attributed to the four categories previously described.

- BSEE strongly recommends that all allocations be made at the “invoice level”. Although BSEE is not mandating the use or reporting of the allocation methods used, it does recommend that a record be kept in case the Regional Supervisor requires any additional information or clarification.

- BSEE strongly recommends that the operator involve the joint interest accounting function in the preparation and certification of the report.

Reporting Issues

- Many platform abandonment projects include the cost of cutting and pulling well conductors from otherwise fully plugged and abandoned wells. BSEE requires that these costs be captured and allocated back to individual well abandonment costs.
- Project managers and/or engineers approve and code decom invoices, which comprise most of the decom expense, but can be unaware of other costs that should be included. A good example of this would be in the situation where operator resources are used in a project and included, per COPAS guidelines, in the joint interest billing statements. Another example is cash received from venture partners intended to compensate the operator for general overhead and certain indirect costs per the joint operating agreement and COPAS guidelines. For these reasons, BSEE strongly recommends that operators involve joint interest accounting resources in report preparation and certification.
- Decom cost reports certified by responsible individuals within the accounting function will significantly reduce the possibility that the BSEE Regional Supervisor will request more information about reported costs.

Examples

Decommissioning Scenarios and Reporting

Single Well Abandonment Reporting

Project Scenario	Single Well Abandonment, PA Association	Single Well Abandonment, PR Association
Decom Activity Type	PA	PA
Multi-Asset Activity Flag	N	N
Turnkey Contract Flag	Y or N	Y or N
Rigs to Reefs Flag	Null	Null
Permenantly Plugged Well - Casing Not Cut	Y or N	Y or N
Partially Decommissioned Assets	Y or N	Y or N
Activity Duration	XX.X days	XX.X days
API Number or Complex ID-Structure Number	API Number	API Number
Transport and Staging Costs	$ $C_{1\,PA}$	$ $C_{1\,PA}$
Location Costs	$ $C_{2\,PA}$	$ $C_{2\,PA}$
Costs	$ $C_{3\,PA}$	$ $C_{3\,PA}$
Other Decom Related Costs	$ $C_{4\,PA}$	$ $C_{4\,PA}$
Decom Cost Total	$ $C_{T\,PA}$	$ $C_{T\,PA}$
Conductor Removal Cost Activity Association	PA	PR
Number of Conductors Removed	Null	1
Conductor Removal Cost	Null	$ C_{CR}

Single Structure Removal and SC&V

Project Scenario	Single Structure Removal and Site Clearance, PA Association		Single Structure Removal and Site Clearance, PR Association	
Decom Activity Type	PR	SCV	PR	SCV
Multi-Asset Activity Flag	N	N	N	N
Turnkey Contract Flag	Y or N	Y or N	Y or N	Y or N
Rigs to Reefs Flag	Y or N	Y or N	Y or N	Y or N
Permenantly Plugged Well - Casing Not Cut	Null	Null	Null	Null
Partially Decommissioned Assets	Y or N	Y or N	Y or N	Y or N
Activity Duration	YY.Y days	ZZ.Z days	YY.Y days	ZZ.Z days
API Number or Complex ID-Structure Number	CID-SN	CID-SN	CID-SN	CID-SN
Transport and Staging Costs	$ $C_{1\,PR}$	$ $C_{1\,SCV}$	$ $C_{1\,PR}$	$ $C_{1\,SCV}$
Location Costs	$ $C_{2\,PR}$	$ $C_{2\,SCV}$	$ $C_{2\,PR}$	$ $C_{2\,SCV}$
Costs	$ $C_{3\,PR}$	$ $C_{3\,SCV}$	$ $C_{3\,PR}$	$ $C_{3\,SCV}$
Other Decom Related Costs	$ $C_{4\,PR}$	$ $C_{4\,SCV}$	$ $C_{4\,PR}$	$ $C_{4\,SCV}$
Decom Cost Total	$ $C_{T\,PR}$	$ $C_{T\,SCV}$	$ $C_{T\,PR}$	$ $C_{T\,SCV}$
Conductor Removal Cost Activity Association	PA	Null	PR	Null
Number of Conductors Removed	Null	Null	X	Null
Conductor Removal Cost	Null	Null	$ C_{CR}	Null

Multiple Well Abandonment, Single Structure Removal and SC&V

Project Scenario	Multiple Well Abandonment, Single Structure Removal and Site Clearance			
Decom Activity Type	PA	PA	PR	SCV
Multi-Asset Activity Flag	Y	Y	N	N
Turnkey Contract Flag	Y or N	Y or N	Y or N	Y or N
Rigs to Reefs Flag	Null	Null	Y or N	Y or N
Permenantly Plugged Well - Casing Not Cut	Y or N	Y or N	Null	Null
Partially Decommissioned Assets	Y or N	Y or N	Y or N	Y or N
Activity Duration	XX.X days	XX.X days	YY.Y days	ZZ.Z days
API Number or Complex ID-Structure Number	API Number 1	API Number 2	CID-SN	CID-SN
Transport and Staging Costs	$ $C_{1\ PA1}$	$ $C_{1\ PA2}$	$ $C_{1\ PR}$	$ $C_{1\ SCV}$
Location Costs	$ $C_{2\ PA1}$	$ $C_{2\ PA2}$	$ $C_{2\ PR}$	$ $C_{2\ SCV}$
Costs	$ $C_{3\ PA1}$	$ $C_{3\ PA2}$	$ $C_{3\ PR}$	$ $C_{3\ SCV}$
Other Decom Related Costs	$ $C_{4\ PA1}$	$ $C_{4\ PA2}$	$ $C_{4\ PR}$	$ $C_{4\ SCV}$
Decom Cost Total	$ $C_{T\ PA1}$	$ $C_{T\ PA2}$	$ $C_{T\ PR}$	$ $C_{T\ SCV}$
Conductor Removal Cost Activity Association	PR	PR	PR	Null
Number of Conductors Removed	1	1	2	Null
Conductor Removal Cost	$ C_{CR1}	$ C_{CR2}	$ $C_{CR\ Tot}$	Null

Multiple Well Abandonment, Multiple Structure Removal and SC&V

Project Scenario	Multiple Well Abandonment, Multiple Structure Removal and Site Clearance					
Decom Activity Type	PA	PA	PR	PR	SCV	SCV
Multi-Asset Activity Flag	Y	Y	Y	Y	Y	Y
Turnkey Contract Flag	Y or N	Y or N	Y or N	Y or N	Y or N	Y or N
Rigs to Reefs Flag	Null	Null	Y or N	Y or N	Y or N	Y or N
Permenantly Plugged Well - Casing Not Cut	Y or N	Y or N	Null	Null	Null	Null
Partially Decommissioned Assets	Y or N	Y or N	Y or N	Y or N	Y or N	Y or N
Activity Duration	XX.X days	XX.X days	YY.Y days	YY.Y days	ZZ.Z days	ZZ.Z days
API Number or Complex ID-Structure Number	API Number 1	API Number 2	CID-SN 1	CID-SN 2	CID-SN 1	CID-SN 2
Transport and Staging Costs	$ $C_{1\ PA1}$	$ $C_{1\ PA2}$	$ $C_{1\ PR1}$	$ $C_{1\ PR2}$	$ $C_{1\ SCV1}$	$ $C_{1\ SCV2}$
Location Costs	$ $C_{2\ PA1}$	$ $C_{2\ PA2}$	$ $C_{2\ PR1}$	$ $C_{2\ PR2}$	$ $C_{2\ SCV1}$	$ $C_{2\ SCV2}$
Costs	$ $C_{3\ PA1}$	$ $C_{3\ PA2}$	$ $C_{3\ PR1}$	$ $C_{3\ PR2}$	$ $C_{3\ SCV1}$	$ $C_{3\ SCV2}$
Other Decom Related Costs	$ $C_{4\ PA1}$	$ $C_{4\ PA2}$	$ $C_{4\ PR1}$	$ $C_{4\ PR2}$	$ $C_{4\ SCV1}$	$ $C_{4\ SCV2}$
Decom Cost Total	$ $C_{T\ PA1}$	$ $C_{T\ PA2}$	$ $C_{T\ PR1}$	$ $C_{T\ PR2}$	$ $C_{T\ SCV1}$	$ $C_{T\ SCV2}$
Conductor Removal Cost Activity Association	PA	PA	PA	PA	Null	Null
Number of Conductors Removed	Null	Null	Null	Null	Null	Null
Conductor Removal Cost	Null	Null	Null	Null	Null	Null

BSEE Decom Mailboxes

Questions or requests related to decom liability assessments:

BSEEDecommLiability@bsee.gov

Questions or requests related to NTL No. 2016-N03 "Reporting Requirements for Decommissioning Expenditures on the OCS":

GOMRDecommCost@bsee.gov

Questions?

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