

The original documents are located in Box 33, folder “Outer Continental Shelf, 1976: Leasing Legislation (1)” of the Glenn R. Schleede Files at the Gerald R. Ford Presidential Library.

Copyright Notice

The copyright law of the United States (Title 17, United States Code) governs the making of photocopies or other reproductions of copyrighted material. Gerald R. Ford donated to the United States of America his copyrights in all of his unpublished writings in National Archives collections. Works prepared by U.S. Government employees as part of their official duties are in the public domain. The copyrights to materials written by other individuals or organizations are presumed to remain with them. If you think any of the information displayed in the PDF is subject to a valid copyright claim, please contact the Gerald R. Ford Presidential Library.

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

*File - OCS Leasing
Lynn*
MAY 26 1976

MEMORANDUM FOR:

THE PRESIDENT

FROM:

James T. Lynn *151 L*

SUBJECT:

OCS Leasing Legislation

Attached is an information memo on offshore oil and gas leasing legislation signed by several members of your Administration. Since it was drafted, it has become clear that the Committee is not going to adopt many of the Administration's amendments. Therefore, we have decided to stiffen our position by opposing the granting of a rule and seeking as many votes as we can get for recommitment.

Attachment



United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

MEMORANDUM FOR THE PRESIDENT

FROM: SECRETARY OF THE INTERIOR
SECRETARY OF COMMERCE
ADMINISTRATOR, FEDERAL ENERGY ADMINISTRATION
DIRECTOR, OFFICE OF MANAGEMENT AND BUDGET

SUBJECT: Legislation on Offshore Oil and Gas Leasing--Information
Memorandum



Background

Shortly after President Nixon announced accelerated leasing for offshore oil and gas in January 1974, public concern along the Atlantic coast, in California and in Alaska brought Congressional action to amend the Outer Continental Shelf Lands Act, under which the leasing program is carried out. The Senate passed S. 521, by a vote of 67 to 19, on July 30, 1975; the House version, H.R. 6218, is about to receive floor action, perhaps later this month.

Both bills are comprehensive versions of the OCS program. They extensively modify the leasing arrangements and provide for an oil spill liability fund as well as aid to States experiencing onshore impacts. The State aid provisions may become moot if the amendments to the Coastal Zone Management Act, which are now in conference and which also contain impact aid provisions, are modified to become acceptable to you and are signed into law.

Administration Position

The Administration has taken the position that the Senate OCS bill is unacceptable. It contains provisions that are expensive, wasteful, and potentially crippling to the leasing program, and it would seriously delay development of offshore oil and gas resources. The House bill as reported is much less objectionable; the minority on the Committee were joined by majority members from Louisiana and Texas in a series of close votes removing many of the worst provisions of the Senate bill.



In our work thus far with the House committee (Ad Hoc Select Committee on the OCS, chaired by John Murphy of New York) we have maintained general opposition to the bill, and have twice written letters detailing Administration objections. In part, the Committee has responded positively and on the whole we feel that the House bill is now nearing acceptability if a limited number of additional changes are made, and if adverse floor amendments can be prevented.

Our general feeling is that the Administration should not accept significant impairment of the OCS leasing program, which is basically sound as it stands. On the other hand, there is something to be gained if a bill could be signed; present State opposition to new leasing off Alaska, California, and the Atlantic coast would be reduced, and leasing would undoubtedly be easier to accelerate.

Therefore, if you do not object, we intend to continue to work for an acceptable bill. The price of Administration acceptance, we are agreed, should be the changes we list below, plus at least a fair number of those less crucial but still important changes listed at Tab A. Avoiding adverse amendments on the floor will be a problem, as will the outcome of conference with an unacceptable Senate bill. We are by no means confident that we will be able to recommend signature of the final product, but the chances are good enough, and the outlook for sustaining a veto uncertain enough, so that we believe working for an acceptable bill is the best idea.

Required Changes in H.R. 6218

1. Lease cancellation. The bill requires cancellation of hazardous leases under criteria that are one-sided and has compensation provisions that are technically deficient. We feel cancellation should occur only after passage of time has clearly shown it to be necessary, and after full consideration of the advantages and dangers of continued production. Cancellation should be invoked only for hazards unanticipated at the time of lease issuance, and the lessee should be compensated for either the value of the lease at the time of cancellation, or his net expense on the lease, whichever is smaller.

2. Limit on bonus bidding. The bill limits use of the present bonus-bid system for lease sales to 90 percent of future acreage, and requires approval by both House and Senate to exceed the limit. We do not object to the 90 percent figure, provided it can be exceeded unless both Houses, by joint resolution, disapprove.



3. Information for States. The bill requires provision to adjacent States of privileged information developed by companies from geological and geophysical exploration. We feel that such information should be provided only if it will not unduly harm the competitive position of the companies involved.

4. Drainage of State lands. The bill requires joint Federal-State leases in the first three miles of Federal waters if the area contains oil or gas pools partly underlying State lands. We do not accept the joint-lease concept, which implies States' rights beyond the 3-mile limit and which gives States a potential veto over leasing of such lands. On the other hand, we are willing to provide arrangements for equitable division of revenues so that a State will not be financially injured by drainage.

5. Recommendations of Governors or Advisory Boards. The bill requires acceptance of leasing recommendations of Governors or Advisory Boards, unless we find them inconsistent with national security or overriding national interest. We feel that in the case of a nationally-owned resource not lying within the boundaries of any State, there should be no presumption of such acceptance, though we seek and encourage States' recommendations.

6. Environmental studies. The bill shifts Interior's extensive program of OCS environmental studies to Commerce. We are agreed that the primary purpose of the studies is to furnish information for Interior's leasing decisions, and that control should remain in Interior's hands.

7. Changes in safety regulations. The bill provides that no change in regulations may reduce the degree of safety on the OCS. We object to this restriction because it prevents balancing the advantages and disadvantages of new regulations, and because it could be a source of delaying litigation.

8. Authority to regulate. The bill strikes from present law the key sentence which, since 1953, has been the basis of regulations and court decisions defining Interior's regulatory authority. The sentence is not inconsistent with other parts of the bill, and we feel it should be retained.

9. Consistency with State coastal zone programs. The bill requires that leasing be consistent with State coastal zone programs, but drops the qualifying phrase which is present in the Coastal Zone Act itself, "to the maximum extent practicable." We feel the phrase should be retained, so that the standard of consistency is no higher for OCS leasing than for other Federal programs.



10. Best technology. The bill requires use of "the best available and safest technology, economically achievable." We oppose enactment of this phrase unless report language makes it clear that the costs and the advantages of new technologies can be balanced against each other, and the bill is amended to make clear that "economic achievability" is to be determined by Interior, not the courts.

11. Safety regulation. The bill makes multiple assignments of agency authority for safety regulations; sometimes as many as three agencies are directed to do the same thing, to no clear purpose or effect. We favor retention of the regulatory responsibilities in present law.

12. Marking of obstructions. The bill makes mandatory the Coast Guard's present discretionary authority to mark obstructions on the OCS for navigational purposes. We feel that discretion should be retained, because marking is not always helpful or necessary, and because the Coast Guard's liability in case of accident might otherwise be unacceptably expanded.

13. Impact aid. The impact aid provisions are identical to those in the House Coastal Zone bill now in conference. We object to them as being inconsistent with the Administration bill on this subject.

14. State authority. The bill forbids development plans to be inconsistent with "any valid exercise" of State or local authority. This is language taken from the Senate bill, which requires development plans to contain information about onshore facilities, but it is inappropriate in the House bill, which restricts the plans to facilities in Federal waters.

15. Requirement of due diligence. The bill bars issuance or extension of a lease if the applicant has not diligently performed his obligations on other leases. The provision is unnecessary, since due diligence on each lease is required elsewhere in the bill; it is unworkable, since it could lead to cancellation of a lease held jointly by several parties because of the lack of diligence of one of them on another lease.

16. Citizens' suits. The bill broadens the standing of citizens to sue under the Act well beyond provisions of other recent environmental laws. This raises the likelihood of nuisance suits.



17. Stratigraphic drilling. The bill requires offer of permits to drill in each frontier area at least one pre-lease-sale test hole, in a location most likely to contain oil or gas. Present policy is to keep these tests "off structure" so that no discovery of oil or gas will result, in order to gather useful geologic information but avoid pressure for further government exploration before leasing. Present policy should be retained.

If all of these changes were made, we think the House bill would be acceptable. We will continue to work with the Committee toward this end.

Thomas S. Kloppe
Secretary of the Interior

W. E. Richardson
Secretary of Commerce

Julius B. Eastman
Administrator, Federal Energy Administration



James T. ...
Director, Office of Management and Budget

Other Administration Objections to H.R. 6218

1. Retroactivity. The bill applies new development plan requirements designed primarily for frontier areas to all leases on which production has not taken place, including hundreds of leases in developed areas of the Gulf of Mexico. The requirements should be applied to frontier areas only.
2. Deadline for preparation of 5-year plan. The bill prohibits leasing after June 30, 1977, unless a required 5-year plan has been prepared and approved. Eighteen months after passage of the bill should be allowed.
3. Principles for preparation of 5-year plan. The bill lays down requirements for preparing the 5-year schedule which are overly strict and could become sources of delaying litigation. Qualifying language should be added.
4. Reports of safety violations. The bill requires excessively detailed reporting of safety violations. Unnecessary expense would be avoided by redrafting these provisions.
5. Frequency of inspection. Unnecessarily frequent inspections are called for in the bill. Once-yearly regular inspections of platforms, plus a program of unannounced visits, would be adequate.
6. Regulations required. The bill requires issuance of regulations concerning duties of the Secretary himself, such as preparing annual reports and the 5-year program. Such a requirement would generate useless paperwork, and should be stricken.
7. Attorney General and FTC review. The bill requires Interior to provide Justice and FTC with information for their review concerning antitrust implications lease issuance or extension. The information requirement is too broad, and could become burdensome and a source of delay.
8. Regulations for subsurface storage. The bill requires Interior to issue regulations for all subsurface storage on the OCS, a requirement that is in conflict with the Energy Policy and Conservation Act, which assigns responsibility in the case of government facilities to the FEA.
9. Limitations on export. The bill adds requirements for Presidential findings and Congressional review to the normal procedures of the Export Administration Act. These are undesirable restrictions on executive powers.



10. Extending the term of a lease. Under certain conditions, the bill permits extension of the primary term of a lease to ten years from the normal five. To avoid undesirable pressure for extensions, this provision should be limited to leases containing such permission in their original language.

11. Development plan approval if environmental studies are incomplete. The bill says that an incomplete environmental study shall not "in itself" be grounds for refusing to approve a development plan. This question should be left to Interior's discretion, since in some cases the study may be important enough to be worth waiting for.

12. Compensation for leases cancelled because of safety violations or inability to comply with law. The bill fails to make clear that cancellation for these reasons would not entitle the lessee to compensation.

13. Revision of development plans. The bill restricts too narrowly the grounds for revision of development plans. If the requested revision is not contrary to the public interest, the mere convenience of the lessee should be sufficient.

14. Reimbursement for data costs. The bill provides for reimbursement of lessees but not permittees for reproduction costs of data acquired from them by Interior. The provisions should be the same for both.

15. Price per lease-share under "Phillips plan." The bill provides that all bidders for 1 percent lease shares under the Phillips plan system would pay the same price, regardless of their bids. This requirement unnecessarily handicaps an otherwise promising experimental bidding system.

16. Required environmental impact statement at development stage. The bill requires at least one EIS on development in each frontier area, but it is ambiguously worded, and could be interpreted to require one on each geologic structure, which would be unworkably burdensome.

17. Definition of "affected State." The definition now in the bill makes it possible for a State to be defined as "affected" by an oil spill from any vessel, not just one carrying OCS oil. This is inconsistent with the logic of the oil spill liability provisions elsewhere in the bill.

18. Proper term for OCS "structures." In referring to OCS "structures" such as wells and platforms, the bill fails to use language which is fully consistent with the 1958 Convention on the Continental Shelf.



April 15, 1976

MEMORANDUM FOR: JIM CANNON
MAX FRIEDERSDORF

FROM: GLENN R. SCHLEEDE

SUBJECT: SIGNING CEREMONY

After every conceivable delay, the chances are good that we will have this legislation (H.R. 10230) between April 28 and May 1. A schedule proposal is attached. Note that the list of members and selected staff from Congressional committees is in draft and needs to be revised by Congressional Relations.

I really think this is an event worth highlighting.

RECOMMENDATION

That you sign the attached schedule proposal.

Attachment



OFFICE OF MANAGEMENT AND BUDGET

ROUTE SLIP

TO Glenn Schleede

*Coastal zone
energy import assistance*

- Take necessary action
- Approval or signature
- Comment
- Prepare reply
- Discuss with me
- For your information
- See remarks below

FROM Joellyn Murphy

DATE 23 April 1976

REMARKS

I'm told the States are planning a full scale phone and letter campaign to the White House on this issue. I thought you might be the one to get the counter arguments to whomever at the WH is on the receiving end.

Your help is important because our negotiations on the Coastal Zone Amendments are going very well on the Hill, but they will break down completely if the Hill thinks the States can bamboozle the White House on the trumped up issue of "legal" problems with loans.

What's at stake here is the difference between \$200M in grants plus \$800M in loans (our "bottom line") and \$1-4B in grants!



EXECUTIVE OFFICE OF THE PRESIDENT

OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

DATE: April 23, 1976
REPLY TO
ATTN OF: Analysis (Murphy)
SUBJECT: Coastal Zone Energy Impact Assistance: State Lobbying
Against the Administration's Loan Approach

- Jim Mitchell

The Commerce and Merchant Marine Committees are getting increasingly heavy pressure from the States on the issue of legal and practical impediments to our loan and guarantee approach for OCS impact assistance.

I was informed by Hill staff that key State people intend to "bombard the White House directly" with their arguments why we should give them grants rather than loans.

These arguments are:

- Some state constitutions prohibit bonding,
- Other state laws restrict state bonding to low amounts and/or limited purposes,
- OCS related needs will exceed localities' statutory debt limits,
- Local debt most often requires voter approval,
- Changing such statutory constraints is impossible or improbable in most cases, and
- In cases where laws might be changed, they can't be changed in time to cope with imminent OCS impacts.

Counter arguments are as follows.

- Analysis of the 30 coastal states' constitutions shows that while there are some problems, there are also several (and frequently used) ways around them. For example, some states periodically amend their constitutions to authorize debt for specific purposes. Other states require legislation and/or referendum to authorize debt.



- The issue of State debt is being overemphasized. The public facilities to be financed are schools, parks, sewers, etc., i.e., facilities usually financed by local governments. Our approach gives the States the say on where, when, and which projects will be built, but the State does not have to be, and is unlikely to be, the borrower of record.
- These facilities are the kind financed every day by local governments. If local debt ceilings are a constraint, laws could be passed to exempt from those debt ceilings these Federally guaranteed or direct loans (because we forgive them if there is inability to repay).
- If OCS impacts are in fact a real and major problem as states assert, states and localities should be willing to pass laws enabling them to accept loans. States pass laws easily enough when necessary to accept Federal grants; why is it "impossible" for loans?
- OCS related growth should not be exempt from usual local political review. If a State or a local community votes down a bond issue, that is its choice. The possibility of voters rejecting bonds does not justify Federal grants.
- Federal grant authority would create a disincentive to borrow where the community could and should borrow. It would also reward communities which do not try to help themselves and penalize communities which do try to help themselves.
- The OCS impacts which will necessitate public facilities are 1 1/2 - 2 years away at the very earliest. There is, therefore, sufficient time in which to pass or change laws, if necessary, if they want to. Meanwhile, generous planning grants will have gone out.
- Solving energy impact problems must be a partnership between Federal and State government. The Federal government is making about \$1B available for public facilities loans because loans are the most equitable, efficient, and fiscally responsible approach. States should do a fair share by ensuring that state law does not prevent localities, State agencies, or the States themselves, if necessary, from availing themselves of Federal loans.

CC:
 Glen. Schleede ✓
 Norm Hartness
 Frank Hodsoll



*Veto signed?
FK Hold for next
Cable -
Briefly*

ERC-EPB Meeting, April 13, 1976
Background Paper
Status Report, Outer Continental Shelf Leasing Amendments

Legislative Background

- Senate bill S. 521, Amendments to OCS Lands Act, passed 67-19 on July 30, 1975.
- House Ad Hoc Committee on OCS (chaired by Murphy of New York) now completing markup of H.R. 6218. Floor action expected in 30-60 days.
- Administration position: in opposition to both bills. Present law (OCS Lands Act of 1953) is adequate.

Major Problems in Senate bill S. 521

- Requires preparation, publication, and yearly revision of 5-year leasing plan
 - with mandatory environmental impact statement, content of which is specified in detail
 - must be consistent with approved State coastal zone programs
 - leasing prohibited after June 30, 1977 in areas not included in the plan
- Requires large increase in Federal information gathering and exploration
 - \$100 million per year mapping program
 - Government exploration of areas not included in 5-year plan (\$500 million authorized)
- Requires stringent safety regulation
 - use of "best available technology"
 - no new regulations may reduce the degree of safety
- Interior's OCS environmental studies program (now \$40 million per year) is transferred to NOAA
- Secretary of Interior must accept Governors' recommendations on leasing unless he finds them "not consistent with national security or overriding national interests."



- ° Authorizes use of new bidding systems for sale of leases
 - eight new ones in addition to the two now authorized
 - limits use of present bonus-bid system to 50 percent of future acreage
 - requires experimental use of new systems
- ° New procedures for review of lessees' development plans
 - mandatory public hearing on each plan
 - plans must include on-shore information (thus Interior approves plan for facilities outside Federal jurisdiction)
 - plans can be permanently disapproved if "extraordinary circumstances" prevent safe operation
 - oil and gas production must be at "maximum efficient rate"
 - new development plan requirements are retroactive to all leases on which production has not begun

° Summary view of Senate bill S. 521:

would seriously slow OCS leasing, cause large extra administrative expense and reduce the value of the Nation's offshore oil and gas.

House bill H.R. 6218

- ° House jurisdictional problems led to formation of an Ad Hoc OCS Committee made up of members from Interior, Merchant Marine, and Judiciary
- ° House bill now in Committee is far less harmful than the Senate bill, but some major problems remain
- ° Requires 5-year plan (but EIS is not mandatory)
- ° Baseline environmental studies are shifted to NOAA
- ° Leases may be cancelled or development plans disapproved where there is serious danger of environmental harm. Lessee would be compensated by return of all his operating costs and payments to the Government.



- First three miles of Federal lands must be leased jointly with adjacent State, and revenues shared on the basis of whether State or Federal lands are being drained. Procedure effectively provides a State veto over leasing these first 3 miles of OCS
- Interior is required to offer permits for pre-lease-sale exploratory drilling in frontier areas (so-called "on-structure stratigraphic tests").
- Present bonus bidding system is limited to 90 percent (Senate bill, 50 percent) of future acreage
- States are given the right to inspect confidential geological interpretations submitted by lessees to Interior.
- Summary view of House bill:

not as bad as the Senate bill, but not acceptable in its present form.



THE WHITE HOUSE

WASHINGTON

February 6, 1976

MEMORANDUM FOR: STEVE McCONAHEY *McConahey*
FROM: GLENN R. SCHLEEDE
SUBJECT: GOVERNOR HAMMOND'S REQUEST TO MEET
WITH THE PRESIDENT

I have obtained Secretary Kleppe's views on this (via Ron Coleman) and they are as follows:

- The President should meet with him if the schedule permits.
- Secretary Kleppe has met with Hammond a couple of times already on the OCS leasing issue. The Secretary believes that, while Hammond is asking for a two-year delay, he is primarily interested in getting a commitment to some Federal front-end financial assistance to help with on-shore development that will result from OCS leasing and development.
- Assuming this is the case, the President could tell the Governor that he (the President) is sympathetic to the Alaska on-shore development problem and that he will be proposing legislation in the next few days calling for an Energy Development Impact Assistance program consisting of loans to aid impacted areas.

Based on this, a meeting probably is a good idea.

I have asked Interior for a paper with background material that we can use to prepare a briefing paper for the President, assuming the meeting goes ahead. Please let me know if you want material for a briefing paper.



The White House
Washington

WHB026(1253)(1-013215A035)PD 02/04/76 1249

1976 FEB 4 PM 1 00

1
2
3
4 ICS IPMAFUB AHG

5 008 A WNAQ JUNEAU ALASKA 284 02-04 915A PST

6
7 PMS THE HONORABLE GERALD FORD PRESIDENT

8
9 THE WHITE HOUSE

10 WASHDC

11 DEAR MR PRESIDENT

12
13 THE STATE OF ALASKA HAS SUPPORTED THE FEDERAL OCS
14 PROGRAM FOR ITS INCEPTION, SEEKING ONLY CONSTRUCTIVE
15 CHANGES RESPONSIVE TO WHAT I BELIEVE ARE LEGITIMATE
16 STATE INTERESTS. IT HAS BEEN, AND CONTINUES TO BE,
17 MY BELIEF THAT CHANGES MADE NOW IN THE PROGRAM ARE
18 THE BEST GUARANTEE OF THE LONG-TERM SUCCESS OF THE
19 OCS PROGRAM IN ALASKA.
20
21
22
23

24
25 HAD THE PROGRAM BEEN MORE FLEXIBLE EARLIER, NO DELAY
26

27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151
152
153
154
155
156
157
158
159
160
161
162
163
164
165
166
167
168
169
170
171
172
173
174
175
176
177
178
179
180
181
182
183
184
185
186
187
188
189
190
191
192
193
194
195
196
197
198
199
200
201
202
203
204
205
206
207
208
209
210
211
212
213
214
215
216
217
218
219
220
221
222
223
224
225
226
227
228
229
230
231
232
233
234
235
236
237
238
239
240
241
242
243
244
245
246
247
248
249
250
251
252
253
254
255
256
257
258
259
260
261
262
263
264
265
266
267
268
269
270
271
272
273
274
275
276
277
278
279
280
281
282
283
284
285
286
287
288
289
290
291
292
293
294
295
296
297
298
299
300
301
302
303
304
305
306
307
308
309
310
311
312
313
314
315
316
317
318
319
320
321
322
323
324
325
326
327
328
329
330
331
332
333
334
335
336
337
338
339
340
341
342
343
344
345
346
347
348
349
350
351
352
353
354
355
356
357
358
359
360
361
362
363
364
365
366
367
368
369
370
371
372
373
374
375
376
377
378
379
380
381
382
383
384
385
386
387
388
389
390
391
392
393
394
395
396
397
398
399
400
401
402
403
404
405
406
407
408
409
410
411
412
413
414
415
416
417
418
419
420
421
422
423
424
425
426
427
428
429
430
431
432
433
434
435
436
437
438
439
440
441
442
443
444
445
446
447
448
449
450
451
452
453
454
455
456
457
458
459
460
461
462
463
464
465
466
467
468
469
470
471
472
473
474
475
476
477
478
479
480
481
482
483
484
485
486
487
488
489
490
491
492
493
494
495
496
497
498
499
500
501
502
503
504
505
506
507
508
509
510
511
512
513
514
515
516
517
518
519
520
521
522
523
524
525
526
527
528
529
530
531
532
533
534
535
536
537
538
539
540
541
542
543
544
545
546
547
548
549
550
551
552
553
554
555
556
557
558
559
560
561
562
563
564
565
566
567
568
569
570
571
572
573
574
575
576
577
578
579
580
581
582
583
584
585
586
587
588
589
590
591
592
593
594
595
596
597
598
599
600
601
602
603
604
605
606
607
608
609
610
611
612
613
614
615
616
617
618
619
620
621
622
623
624
625
626
627
628
629
630
631
632
633
634
635
636
637
638
639
640
641
642
643
644
645
646
647
648
649
650
651
652
653
654
655
656
657
658
659
660
661
662
663
664
665
666
667
668
669
670
671
672
673
674
675
676
677
678
679
680
681
682
683
684
685
686
687
688
689
690
691
692
693
694
695
696
697
698
699
700
701
702
703
704
705
706
707
708
709
710
711
712
713
714
715
716
717
718
719
720
721
722
723
724
725
726
727
728
729
730
731
732
733
734
735
736
737
738
739
740
741
742
743
744
745
746
747
748
749
750
751
752
753
754
755
756
757
758
759
760
761
762
763
764
765
766
767
768
769
770
771
772
773
774
775
776
777
778
779
780
781
782
783
784
785
786
787
788
789
790
791
792
793
794
795
796
797
798
799
800
801
802
803
804
805
806
807
808
809
810
811
812
813
814
815
816
817
818
819
820
821
822
823
824
825
826
827
828
829
830
831
832
833
834
835
836
837
838
839
840
841
842
843
844
845
846
847
848
849
850
851
852
853
854
855
856
857
858
859
860
861
862
863
864
865
866
867
868
869
870
871
872
873
874
875
876
877
878
879
880
881
882
883
884
885
886
887
888
889
890
891
892
893
894
895
896
897
898
899
900
901
902
903
904
905
906
907
908
909
910
911
912
913
914
915
916
917
918
919
920
921
922
923
924
925
926
927
928
929
930
931
932
933
934
935
936
937
938
939
940
941
942
943
944
945
946
947
948
949
950
951
952
953
954
955
956
957
958
959
960
961
962
963
964
965
966
967
968
969
970
971
972
973
974
975
976
977
978
979
980
981
982
983
984
985
986
987
988
989
990
991
992
993
994
995
996
997
998
999
1000

IN THE N.E. GULF OF ALASKA SALE WOULD NOW BE REQUESTED.
AS CIRCUMSTANCES NOW EXIST HOWEVER ONLY A DELAY OF ONE
TO TWO YEARS WILL ALLOW OUR STATE TO AVOID EXTREMELY
UNDESIRABLE SOCIOECONOMIC AND CULTURAL IMPACTS AND
THE RISKS OF SUBSTANTIAL ENVIRONMENT CHANGE. THE RECENT
RECOMMENDATIONS OF YOUR COUNCIL ON ENVIRONMENTAL
QUALITY BEAR OUT THE STATE POSITION AND I WANT TO
REQUEST IN THE MOST FORCEFUL MANNER POSSIBLE THAT
YOU ACT TO GRANT A DELAY IN THE N.E. GULF LEASE SALE.
A REDUCTION IN TRACTS SOLD WILL NOT RESOLVE REAL STATE
DIFFICULTIES IN ANY MEANINGFUL WAY.

I WANT TO EMPHASIZE THAT THE STATE BELIEVES A GOOD
ALASKA OCS PROGRAM CAN AND SHOULD BE FORMULATED



1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26

COOPERATIVELY. WE HAVE OFFERED TO COOPERATE IN THE
BEAUFORT SEA AND BELIEVE COOPERATION IS ALSO POSSIBLE
IN LOWER COOK INLET. THE CONCERN OF THE STATE CENTERS
ON THE NATURE OF THE PRESENT PROGRAM AND THE TIMING
OF THE FIRST SALE IN THE N.E. GULF. BEFORE ANY FINAL
DECISION IS MADE ON A MATTER WHICH IS SO VITAL BOTH
TO THE STATE AND NATION I WOULD APPRECIATE AN
OPPORTUNITY TO SPEAK WITH YOU EITHER PERSONALLY OR BY
TELEPHONE. I WILL BE IN WASHINGTON ON MONDAY FEBRUARY 9.
MY THANKS TO YOU FOR YOUR CONSIDERATION OF MY CONCERN.

SINCERELY

JAY S. HAMMOND, GOVERNOR STATE OF ALASKA



F.6:013

DRAFT

MEMORANDUM FOR: Glenn Schleede
The White House

From: Executive Assistant to the Secretary
Department of the Interior

Subject: Governor Hammond's Request to the President
for a Delay in the Alaska Lease Sale

- ° The President should meet with Governor Hammond.
- ° He should not agree to any delay in the proposed Alaska lease sale.
- ° Based upon several meetings between the Secretary and Governor Hammond, the Governor's real interest is some assurance that Alaska will receive economic front end impact assistance.



-
- ° Present schedule calls for a decision to have a lease sale by the Secretary the week of February 16. If the decision is to have a sale, ^{the} earliest date of sale would be approximately March 31.
 - ° The most optimistic estimate is that only one hole could be ^{drilled} punched in the fall of 1976. The sale, if approved, would probably be of limited size and impact. ^The major impact to come 3 to 4 years from now which allows ample time for planning.

- ° The President could assure the Governor that the legislation introduced by the Administration, or a modification of the legislation approved by the Merchant Marine Committee by a vote of 30 - 0, will emerge from this Congress and that the State of Alaska would receive appropriate financial aid for the impact resulting from any Alaska sale this year.



Ronald G. Coleman





United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

FEB 4 1976

Memorandum

To: See Distribution

From: William R. Moffat
Director, Office of Policy Analysis

Subject: Outer Continental Shelf Leasing Experiments

Attached is a paper written by Marshall Rose of my office, "Design Elements of OCS Leasing Experiments Mandated Under S. 521." I would appreciate receiving any comments you may have on it.

As you know, S. 521, Amendments to the Outer Continental Shelf Lands Act, which passed the Senate last July, calls for a series of experiments with new OCS oil and gas leasing arrangements, and in effect mandates that half of future frontier leasing be devoted to these experiments by limiting use of the present customary bonus bidding procedure to no more than half of frontier acreage. Rose's analysis is intended to throw light on whether these provisions are wise. His paper will be easy reading only for persons acquainted with methods of statistical inference and decision theory, but the general thrust of all of it except the appendix should be accessible to anyone willing to puzzle it through.

The major presumptions which underly Rose's analysis are these:

- The net value to the Nation of an OCS oil and gas lease is often extremely high (tens of millions of dollars or more). Experiments with sales of leases under untried lease terms must therefore be treated as potentially very costly, since the new terms may reduce the value of the oil and gas by altering the time profile of production, changing the amounts ultimately recovered, or affecting costs of lease administration, and may alter the share of value which is returned to the public through bonuses, rents, royalties, or profit shares.



- Therefore, no experiment should be larger than is necessary to produce a statistically significant result. Furthermore, some experiments, even of minimum size, may be too costly to be justified at all.
- Many of the most important questions about OCS leasing systems are not answerable by doing experiments, at least not within a reasonable period of time. The effects of lease terms on production profiles, ultimate recovery, early shutdown, and risk aversion, for example, will probably not be revealed by experiments. Questions which are subject to experimentation, while interesting and important, may not justify very high experimental costs. The issue of whether a particular experiment is worth carrying out at all is therefore an important one to analyze case by case.
- Fortunately, experimentation is far from being the only (or even necessarily the best) method of improving our knowledge about different leasing systems. Careful theoretical work, and computer simulation modeling, have so far told us much more than experiments, and probably will continue to do so. In fact, experiments may sometimes be useful primarily for validating the assumptions used to construct simulation models, not for the experimental results taken by themselves.

Written against this background, the major conclusions of Rose's analysis are these:

- Certain of the alternate leasing systems in S. 521 probably should not be tested experimentally at all, either because testable hypotheses cannot be formulated about them, or because information about some systems can be gained as well or better by testing others.
- For a wide variety of assumptions, and for the range of experience in the October 1974 royalty bidding experiment, 40 to 60 observations should be sufficient to test a given system. The acreage required depends importantly on whether more than one system can be tested per lease tract.
- Decision analysis (based on assumptions deliberately favorable to experimentation) indicates that between 10 and 25 percent of the acreage over the next two years is a probable upper limit on beneficial experimentation.



In light of Rose's analysis, enactment of the provisions of S. 521 on experimentation would appear to be a bad mistake with potentially very high costs.

The presumption in S. 521 appears to be that any experiment is good, and that lots of experimentation is still better. My personal view is that while some experiments may be justifiable, an arbitrary mandate as to their number or size definitely is not. In light of the extreme value of the resources involved, and the losses that could result from leasing under inferior systems, before any experiment is carried out there should be analysis sufficient to warrant the presumption that its benefits will exceed its costs.

The results so far from theory, from the royalty bidding experiment, and from various simulation models strongly suggest that the most promising leasing systems are those using bonus bidding with a specified contingent payment--either royalty or profit share. Sorting out the advantages of the various forms of such systems may be helped along by limited experiments that tell us something about administrative costs and about the types of bidders attracted to each system. But the choice of systems depends at least as importantly, and perhaps much more so, on questions experimentation won't answer. The importance S. 521 places on experiments thus seems misplaced, and in light of the very real costs of leasing under inferior systems, it seems extremely unwise.

Bill Moffat



DESIGN ELEMENTS OF OCS LEASING
EXPERIMENTS MANDATED UNDER S. 521

by

Marshall Rose
Department of the Interior
Office of Policy Analysis

February 1976



Abstract

This paper considers the composition and size of the OCS experiment mandated in S. 521. Four of the nine experimental systems listed in S. 521 have been identified as clearly superior testing candidates. They are:

- Fixed cash bonus with royalty bid
- Fixed cash bonus with profit share bid
- Fixed profit share with cash bonus bid
- Fixed profit share, cash bonus bid, and one percent working interest shares.

To efficiently examine a particular hypothesis, 40 - 60 observations per experimental system are needed. This suggests that for hypotheses relating to leased tracts only, up to 50 - 80 tracts might have to be offered under each of the relevant experimental systems in order to generate 40 - 60 observations on leased tracts.

The suitable test size of the OCS experiment appears to be between 10 and 25 percent of tracts offered during the two-year testing period. Under an accelerated leasing schedule, the appropriate test size is probably closer to 10 percent, while a 25 percent test is likely to be more appropriate for low rates of leasing.



I. Introduction

Senate bill S. 521 (Section 203) directs the Secretary of the Department of the Interior to experiment with alternative OCS leasing systems over a two-year period. The results of the experiment "shall be incorporated into an overall analysis of these [leasing] systems and this analysis shall be provided to Congress no later than 12 months after the sale date."

The following elements are of primary concern in structuring an experimental design of OCS leasing systems:

1. Objectives of the tests.
2. Systems to be tested.
3. Sample size of individual systems.
4. Sample size of the entire experiment.
5. Statistical design based on specific hypotheses to be tested.
6. Supplementary analysis accompanying empirical tests.

The scope of this paper is limited to the first four of these issues.

II. Objectives of the OCS Experiment

Ideally, the experiment should provide information which allows comparison of the alternative leasing systems under consideration with respect to public and private benefits and costs. In this regard the following factors are most important: level of the bids; number of bidders; distribution of bidders by firm size and frequency of past participation in OCS auction sales; expected Federal revenues; development and production profiles; and ease of program administration.

The level of the individual bids indicates the willingness of firms to pay for the lease as a function of the terms of the auction and the uncertainty in value associated with specific tracts. The number and distribution of bidders indicates the degree of auction competition associated with alternative leasing systems. Federal revenues and development and production profiles are relevant for determining the expected present value of government receipts as well as the level and timing of output associated with each of the leasing systems considered. The importance of program administration is self evident.



If the information cited above could be generated in sufficient detail, a rigorous comparison of alternative leasing systems could then be conducted. Unfortunately, we can expect that the actual level of information generated will not be nearly sufficient to allow such a comparison.

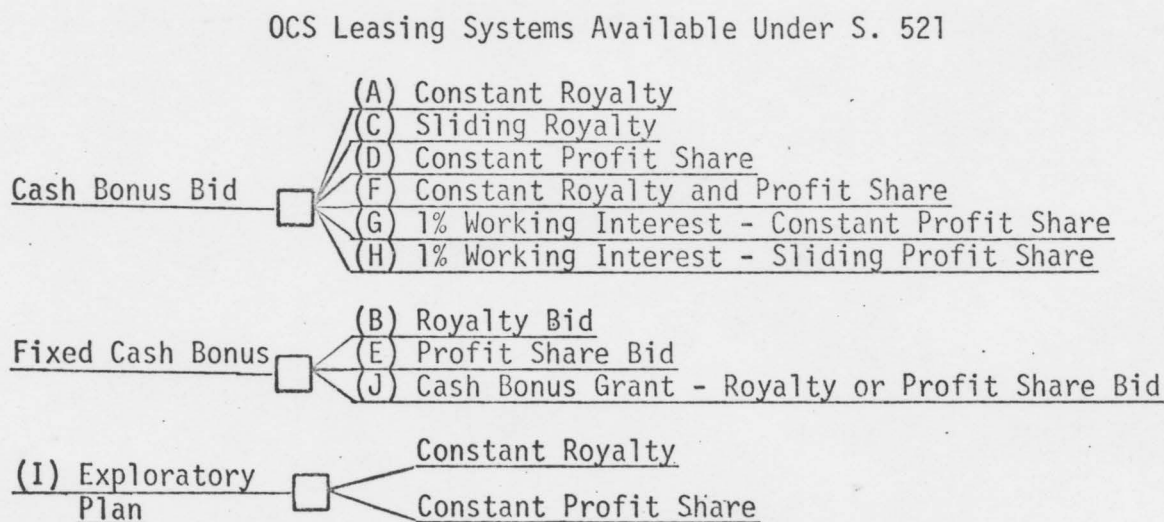
One reason is that bidders may disguise their bids (or not bid at all) in order to bias the results in favor of the leasing system most favorable to themselves. Owing to differences in bidding strategy, risk aversion, and estimates of reserves, it may not be possible to distinguish spurious bids from truthful ones. Even if this were possible, it would be extremely difficult to infer the production profiles used in generating the bids. This is a particularly vexing problem when the bid variable is a profit share or royalty rate. In the former case, the highest bidding firm may be a relatively inefficient producer, and its bid may reflect a high percentage of a relatively low absolute level of profits. In the latter case, the winning firm may simply bid a speculative royalty rate that would discourage or delay production unless actual reserves are very high. Furthermore, it would take several years to determine the extent to which a particular leasing system induced such speculative bidding tactics.

As a result, the information generated by a bidding experiment cannot be used to evaluate alternative systems in a comprehensive and timely manner. Nevertheless, a bidding experiment can be used for more modest purposes, such as testing the predictive reliability of independently developed leasing models; examining a limited number of relevant factors among leasing systems, such as the type and number of bidders, and the ease with which a given system can be administered; and evaluating in detail designated leasing systems with regard to bidding strategies as the given element (royalty or profit share rate) is changed.

III. Leasing Systems to be Tested

S. 521 specifies nine basic experimental systems, and labels them (B) through (J). The cash bonus bidding system is denoted by (A). These 10 systems are shown in Figure 1.

Figure 1



For purposes of the OCS experiment, five of these leasing systems are inferior test vehicles. They are C, H, F, J, and I. Their shortcomings are described below:

- (C) Cash bonus bids with sliding scale royalty, and
- (H) Cash bonus bids with sliding scale profit share: Based on research to date, ^{1/} it appears that nondevelopment rather than early abandonment is the more serious economic problem associated with royalty and profit shares. Thus, we can expect that modification of constant rates to variable rates will not significantly affect production or bidding strategies. Accordingly, the results obtained from testing systems A (cash bonus bids with constant royalty) and G (cash bonus bids with constant profit share) can be used in conjunction with our analytical models to infer the characteristics of systems having sliding scale rates.
- (F) Cash bonus bids with fixed royalty and fixed profit share: With both the royalty and profit share as fixed elements, it is difficult to separate the effect of each element on the cash bonus bid and upon development strategies. The individual effects of each element may be more accurately evaluated by considering two leasing strategies: A (cash bonus bid with constant royalty) and D (cash bonus with constant profit share).
- (J) Fixed cash bonus, returned as grants to cover exploration costs, with royalty or profit share bid: We can expect that the cash bonus grants will simply increase the bid variable by an equivalent amount. In this case, leasing system J is largely redundant, since the relevant information can be obtained from systems B (fixed cash bonus with royalty bid) and E (fixed cash bonus with profit share bid).
- (I) Exploratory plan: Owing to the ambiguity of the bid variable and the subjective nature of the bid evaluation, it will be difficult to formulate testable hypotheses about this type of leasing system.



^{1/} "Analysis of Alternative Bidding Systems for OCS Oil and Gas Leases," Office of OCS Program Coordination, Department of the Interior, April 29, 1975, draft.

Based on the foregoing discussion, we conclude that systems C, H, F, J and I are inferior and/or redundant leasing systems for empirical testing purposes. In fact, we could also argue that these systems are dominated by the others on theoretical grounds as well, but it is not necessary (perhaps not desirable as well) to do so at this time.

IV. Sample Size Per Experimental System

Statistical tests of significance involve, among other things, determination of whether a difference in sample statistics, e.g., mean values, is sufficiently large to infer that the samples are drawn from different populations, for example, populations having unequal mean values. As the sample size increases, the test becomes more sensitive, in the sense that smaller measured differences in the sample means can be considered statistically significant.

In testing a particular hypotheses at a specified level of confidence, the magnitude of the difference in statistics that is significant depends upon the sample size and the estimated standard deviation of the appropriate variable under consideration. For example, suppose that we want to test whether or not there is a significant difference in the mean number of bids per tract received for two leasing systems, namely cash bonus bidding, b , and royalty bidding, r .

Denote the sample mean number of bonus bids by X_b , and the sample mean number of royalty bids by X_r . The symbol σ represents the estimated standard deviation of the variable $X_r - X_b$.

The significance ratio is defined by

$$T = \frac{X_r - X_b}{\sigma} \quad (1)$$

When the samples are independent,

$$\sigma^2 = \sigma_r^2 + \sigma_b^2, \quad (2)$$

and

$$\sigma_r^2 = S_r^2 / (N_r - 1.0),$$

where S_r^2 is the variance of the sample number of royalty bids, and N_r is the size of the royalty sample. The term σ_b^2 is defined in a similar way.

To determine if $X_r - X_b$ is significant, we compare the value of T to the number of standard deviates taken from the Student's t distribution for $N_r + N_b - 2$ degrees of freedom. If T exceeds this number of standard deviates at a given level of confidence, we can infer that the difference in sample mean values is statistically significant.



If we let t represent the number of standard deviates, then $t\sigma$ is the minimum difference in sample mean values that can be considered significant. As the sample size increases, both t and σ decline, so that smaller differences in mean values become significant.

At the same time, larger sample sizes are more expensive. In the absence of cost-benefit measures, there is no exact method for finding the optimal sample size. Accordingly, we proceed in the following heuristic fashion.

The standard assumption is made that if S_i ($i = r, b$) is known for any N_i , then this S_i is our best estimate of the sample standard deviation for any N_i ^{2/}. Also, over the range of sample sizes in which we will be interested, t can be taken as fixed. Thus, as the sample size increases, the improved sensitivity of the experiment can be measured solely by changes in σ .

Given sample values for the S_i and N_i , we can compute the proportional change in σ as the N_i are varied. In this way we can find a range for N_i within which the appropriate sample size is likely to reside. We demonstrate this approach with the following example.

In OCS Sale #36, 297 tracts were offered: 10 under royalty bidding, and 287 under bonus bidding. The following statistics were found for the number of bids per tract.

$$X_r = 5.3, \quad S_r = 4.80$$

$$X_b = 1.1, \quad S_b = 1.56$$

Computing the significance ratio from equation (1), we find that $T = 2.63$. At the 95% level of confidence, $t = 1.96$ for 295 degrees of freedom. Since $T > t$, the difference in mean values is considered significant.

Calculating σ in equation (2), we then find that $t\sigma = 3.14$, which is the minimum difference in sample mean values that can be detected by this test as being significant. The effect of alternative test sizes on the level of significance is shown in Table 1.

Three separate cases are considered therein. In the first case, we let $N_r + N_b = 297$. The second case has $N_r + N_b = 80$. The third case assumes that $N_b = 70$. These sample sizes span the range of expected values of future sale sizes.

^{2/} See, for example, Snedecor, G., Statistical Methods, Iowa State University Press, Ames, Iowa, 1956, pp. 60-61.



Table 1
Effect of Sample Size on the Level
of Significance

Sr = 4.80
Sb = 1.56

Nr	Nb	σ	σ_0
10	287	1.60	1.00
20	297	1.10	0.69
30	267	0.89	0.56
40	257	0.77	0.48
50	247	0.68	0.43
60	237	0.63	0.39
75	222	0.56	0.35
100	197	0.49	0.31
200	97	0.38	0.23
10	70	1.61	1.00
20	60	1.12	0.70
30	50	0.92	0.57
40	40	0.81	0.50
50	30	0.74	0.46
60	20	0.72	0.45
70	10	0.78	0.48
10	70	1.61	1.00
20	70	1.12	0.70
30	70	0.91	0.57
40	70	0.79	0.49
50	70	0.71	0.44
60	70	0.65	0.40
75	70	0.49	0.30
100	70	0.42	0.26
200	70	0.39	0.24



For each of these three cases, the proportional effect on $t\sigma$ as the sample size changes is approximated by σ_0 . This term represents the normalized value of σ , where $\sigma_0 = 1.0$ for $Nr = 10$ in each case. The results are seen to be quite similar for all three cases. An increase in Nr from 10 to 20 reduces σ_0 by 30 percent. An increase in Nr from 20 to 30 reduces σ_0 by 20 percent. An increase in Nr from 30 to 40 reduces σ_0 by approximately 15 percent. When Nr increases from 40 to 50, σ_0 is reduced by about 10 percent. Additional increases in Nr result in proportionately smaller reductions in σ_0 .

These results suggest that, for the particular hypothesis being tested, $40 \leq Nr \leq 60$ is an appropriate test size. However, the results are significantly more general than one might suspect.

It is easy to show that σ_0 is unaffected by scalar changes in the S_i . Therefore, σ_0 is the same for a given value of S_r/S_b . In the sample problem, the values of σ_0 in Table 1 are unchanged as long as $S_r/S_b = 3.08$. Experimentation with different values of S_r/S_b shows that, for N_b constant and lying within the range of 50 - 300, the largest reduction in σ_0 for given changes in N_r occur at $S_r/S_b \approx 3.0$. Using the reduction in σ_0 with respect to changes in N_r as a proxy for marginal benefits, it follows that at any level of N_r , marginal benefits will be lower when $S_r/S_b \approx 3.0$. Thus, if the magnitude of S_r/S_b is substantially different from 3.0, we will find that the appropriate range of sample sizes for the experimental systems will lie below $40 \leq Nr \leq 60$.

In any forthcoming OCS experiment, it may be desirable to test two bidding systems on the same set of tracts. In this way differences in tract parameters could be taken into account or differences in the bidding results could be analyzed with more precision. When the sample results are paired in this manner, it is likely that the results will not be independent.

The formula for computing σ for paired samples is

$$\sigma^2 = \sigma_r^2 + \sigma_b^2 - 2R\sigma_r\sigma_b,$$

where R is the correlation between the two samples. Because $N_r = N_b$ in these cases, it can be shown that

$$\sigma_0 = 3.0 / \sqrt{Nr - 1.0} \quad \underline{3/}$$

That is, σ_0 is not dependent upon either the absolute or relative levels of the S_i , nor is it dependent upon R . The numerical relationship between σ_0 and the sample size is presented in Table 2.

3/ The numerator is equal to $\sqrt{Nr - 1.0} = 3.0$ for $Nr = 10$. As the sample size increases, σ is equal to a constant, which depends upon S_r , S_b , and R , multiplied by $1.0 / \sqrt{Nr - 1.0}$.



Table 2

The Effect of Sample Size on the Level
of Significance: Paired Samples

Nr = Nb	10	20	30	40	50	60	75	100	200
σ_0	1.00	0.71	0.58	0.50	0.45	0.41	0.37	0.32	0.22

Comparison between Tables 1 and 2 does not reveal any substantial differences in the effect of sample size on the level of significance for paired and unpaired samples. However, as a practical matter, it appears desirable to design an experiment in which Nr is somewhat larger when the samples are paired. The reason is that, in these cases, we can expect some firms to submit bids on only one of the two leasing systems for the paired-sample tracts. In this way they can still win the tract if the system under which they bid on is chosen for evaluating bids. However, in unpaired samples, the firm obviously cannot win a tract if it refuses to bid under an experimental system, if this is the only bidding system utilized on that tract.

In summary, this section has shown that, in order to generate statistically valid results in an efficient manner, no more than 40-60 observations are needed per experimental system. Assuming that 75 percent of tracts offered receive serious bids, we conclude that the maximum number of tracts that should be offered under any one experimental leasing system is between 50 and 80.

V. Overall Size of the Experiment

This section considers the following question: during the period of the OCS leasing experiment, what percent of available tracts should be offered under experimental systems? To answer this question, a decision theoretic model has been developed. The model is explained in detail in the Appendix.

The primary elements of the model are depicted in Figure 2, where square nodes represent decision points and circles represent chance events. The decision problem is to choose between the options of not testing, NT, or testing at size X, denoted by TX. This decision depends upon the worth of not testing, W_n , compared to the worth of testing at size X, denoted by W_x . By worth we mean the net social value of tracts leased according to the relevant decision rules associated with testing and not testing during the k-year planning period of future OCS sales.

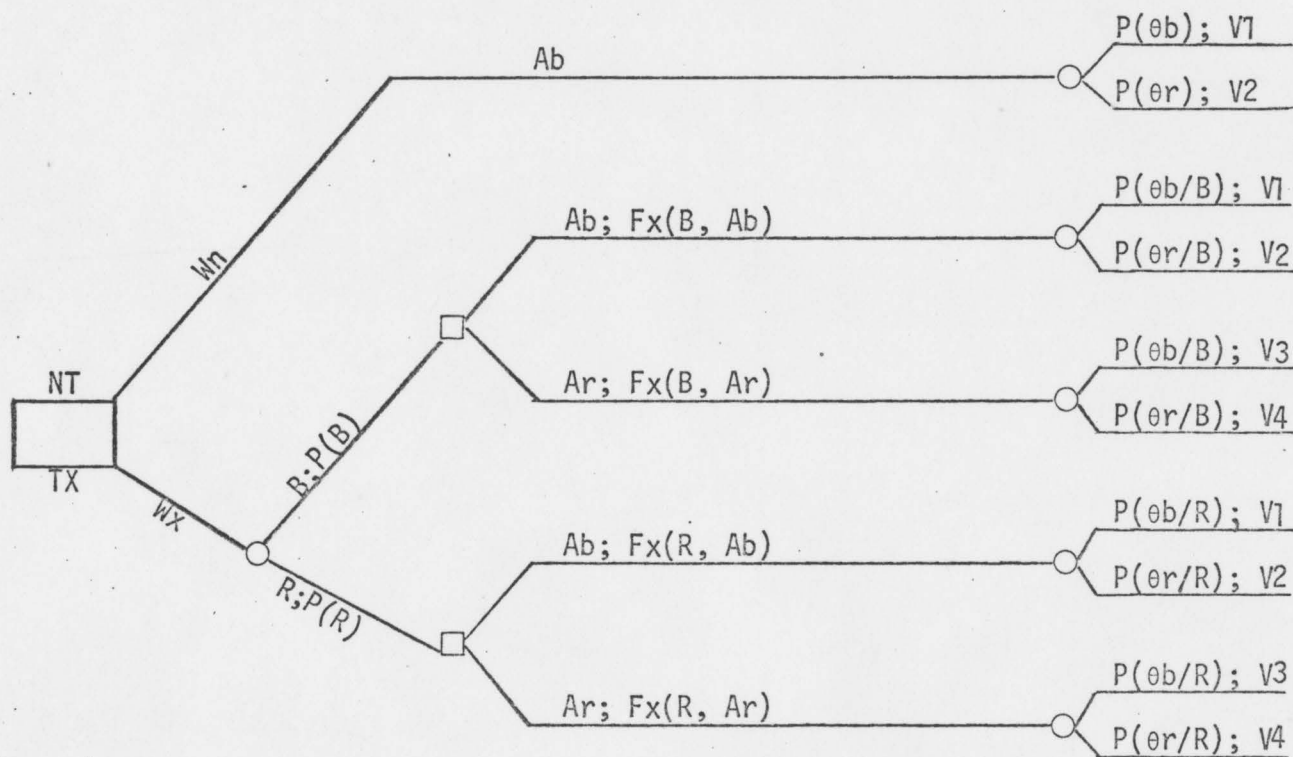
The model assumes that if we do not test any experimental leasing systems, then the cash bonus bidding system will be chosen. This choice is denoted by Ab.

If testing is undertaken, then 100X percent of tracts offered during the h-year test period will be leased under experimental systems. The test will signal that either cash bonus bidding (B) or one of the experimental systems (R) is the better leasing system. "Better" means here that the particular leasing system so described generates a higher aggregate social value for all tracts offered during the planning period, compared to its counterpart systems.



Figure 2

Decision Analysis Testing Problem



- V1 = V1 (Ab, θb)
- V2 = V2 (Ab, θr)
- V3 = V3 (Ar, θb)
- V4 = V4 (Ar, θr)



Given a particular test signal, B or R at the end of the test period, a choice is then made to lease tracts using cash bonus bidding or using one of the experimental systems. The latter choice is denoted by A_r . The choice of A_b or A_r for test signal B or R depends upon the expectation function F_x . The calculation of F_x is described in the Appendix.

Suffice it to say here that F_x depends upon (1) the prior probabilities $P(\theta_b)$ and $P(\theta_r)$, representing the chances that bonus or one of the experimental systems is the true state, i.e., the best method of leasing; (2) the information matrix P' , which indicates the choices that the test will correctly predict which system is best, for each of the two states, θ_b and θ_r ; (3) the payoff matrix V' , which represents the relative values associated with making correct and incorrect decisions for a given state; and (4) the probabilities $P(B)$ and $P(R)$ which represent the chances of obtaining test signals B or R.

For any set of parameters, W_n and W_x are computed over the potential range of V' . The range of V' in which $W_x > W_n$ is then determined. Finally, the probability that V' will fall within the range that results in $W_x > W_n$ is found. This probability is denoted by $P(W_x > W_n) = \beta$.

The numerical results for β are shown in Tables 3, 4 and 5. The following parameters are stipulated:

- The discount rate, i , is 10 percent.
- The test period h , is two years.
- The planning period k , is ten years.
- There is an 80 percent chance that the test results will correctly predict the true state, i.e., $P(B/\theta_b) = P(R/\theta_r) = 0.8$.

Recall that $P(\theta_b)$ is the prior probability that cash bonus bidding is a "better" leasing system than any of the experimental systems. The symbol Z represents the ratio of the number of tracts leased during the 2-year test period to the number of tracts leased during the 10-year planning period. The results shown in the Tables are independent of the absolute number of tracts leased in periods h and k .

A 50 percent test size is considered first, in Table 3. For $P(\theta_b) > 0.5$, it is unlikely that testing at this level will be more valuable than not testing, for virtually any feasible value of Z . Only in the presence of ignorance, defined as $P(\theta_b) = 0.5$, does it appear marginally worthwhile to prefer a 50 percent test to not testing. Because we have been intentionally optimistic with regard to the accuracy of testing, it is prudent to reject a 50 percent test size.



Consider next a 25 percent test. Table 4 shows that, unless $P(\theta b) < 0.55$, a 25 percent test cannot be justified. (The most likely value of Z is 0.3). Accordingly, it appears from these findings that the OCS experiment should be smaller than 25 percent.

Table 5 considers a 12.5 percent test size. In this case we find that testing is likely to be worth more than not testing if $P(\theta b) \leq 0.6$. A test of this size does not appear inefficient.

Interpretation of these results with regard to the optimal sample size remains, to a large extent, a matter of judgment. Based on the decision analysis, it appears that the optimal sample size is more than 10 percent, but less than 25 percent.

In general, the appropriate percentage test size is inversely related to Z . This is the case because as the (relative) number of tracts leased during the test period declines, the number of tracts remaining to be leased after this period increases. As a result, the value of testing tends to increase when Z decreases, since the optimal decision rules that derive from testing can then be applied to a greater number of remaining tracts. These observations suggest that as $Z \rightarrow 0.4$, the suitable test size is closer to 10 percent, while for the case of $Z \rightarrow 0.2$, the appropriate test size is approximately 25 percent.



Table 3

Probability that a 50 Percent Test is More Valuable
Than Not Testing */

Z	$\beta = P(Wx > Wn)$				
	$P(\theta b) = 0.5$	$P(\theta b) = 0.6$	$P(\theta b) = 0.7$	$P(\theta b) = 0.8$	$P(\theta b) = 0.9$
0.2	0.60	0.40	0.06	- 0 -	- 0 -
0.3	0.52	0.28	- 0 -	- 0 -	- 0 -
0.4	0.45	0.17	- 0 -	- 0 -	- 0 -
Average	0.52	0.28	0.02	- 0 -	- 0 -

Table 4

Probability that a 25 Percent Test is More Valuable
Than Not Testing

Z	$\beta = P(Wx > Wn)$				
	$P(\theta b) = 0.5$	$P(\theta b) = 0.6$	$P(\theta b) = 0.7$	$P(\theta b) = 0.8$	$P(\theta b) = 0.9$
0.2	0.66	0.50	0.22	- 0 -	- 0 -
0.3	0.61	0.42	0.10	- 0 -	- 0 -
0.4	0.56	0.34	- 0 -	- 0 -	- 0 -
Average	0.61	0.42	0.11	- 0 -	- 0 -

*/ Recall that the accuracy of any test size (defined by matrix P' in the Appendix) is assumed equal to 80 percent in Tables 3, 4 and 5. If we allow the test accuracy to decline below 80 percent for smaller test sizes, then in these cases β will also decline and the results become more favorable to not testing. This suggests that if testing is, in fact, undertaken, a modest test size is appropriate.



Table 5

Probability that a 12.5 Percent Test is More Valuable
Than Not Testing

Z	$\beta = P(Wx > Wn)$				
	$P(\theta b) = 0.5$	$P(\theta b) = 0.6$	$P(\theta b) = 0.7$	$P(\theta b) = 0.8$	$P(\theta b) = 0.9$
0.2	0.70	0.56	0.31	- 0 -	- 0 -
0.3	0.67	0.52	0.24	- 0 -	- 0 -
0.4	0.64	0.46	0.17	- 0 -	- 0 -
Average	0.67	0.51	0.24	- 0 -	- 0 -



Appendix: Decision Theoretic Model

The decision analysis model considers two states of nature. The first, denoted by θ_b , represents the state wherein cash bonus bidding, with royalty or profit share fixed at any predetermined level, is the "better" leasing system. "Better" is used here to suggest that tracts leased under cash bonus bidding generate a higher net social value than tracts leased under any one of the experimental systems. Similarly, θ_r denotes the state wherein one of the experimental systems generates a higher net social value than the cash bonus bidding system. The prior probabilities $P(\theta_b)$ and $P(\theta_r)$ represent the likelihood that either θ_b or θ_r is the true state. Accordingly, $P(\theta_r) = 1 - P(\theta_b)$.

The symbol B represents experimental test results predicting that θ_b is the true state, while the symbol R denotes test results suggesting that θ_r is the true state. The information matrix given by P' below

$$\begin{array}{c}
 \text{Test Result} \\
 \hline
 \begin{array}{cc}
 & \text{State} \\
 & \theta_b \qquad \theta_r \\
 \begin{array}{c}
 B \\
 R
 \end{array} & \left[\begin{array}{cc}
 P(B/\theta_b) & P(R/\theta_b) \\
 P(B/\theta_r) & P(R/\theta_r)
 \end{array} \right] = P'
 \end{array}
 \end{array}$$

denotes the likelihood of obtaining the designated test signals conditional upon specified states of nature. For example, $P(B/\theta_b)$ is the probability that testing will (correctly) predict that θ_b is the true state, given that it is, in fact the true state.

The decision to choose cash bonus bidding is denoted by A_b . The decision to choose one of the experimental systems is denoted by A_r . The payoff matrix can be represented by V' below.

$$\begin{array}{c}
 \text{Action} \\
 \hline
 \begin{array}{cc}
 & \text{State} \\
 & \theta_b \qquad \theta_r \\
 \begin{array}{c}
 A_b \\
 A_r
 \end{array} & \left[\begin{array}{cc}
 V_1(A_b, \theta_b) & V_2(A_b, \theta_r) \\
 V_3(A_r, \theta_b) & V_4(A_r, \theta_r)
 \end{array} \right] = V'
 \end{array}
 \end{array}$$

For example, $V_1 = V_1(A_b, \theta_b)$ denotes the payoff that derives when the cash bonus bidding system is used on a tract, given that cash bonus bidding is, in fact, a better leasing system than any one of the experimental leasing systems.



Suppose that the ratio of tracts leased to tracts offered is the same for any of the leasing systems under consideration. Then V' can be interpreted as representing the net social value per leased tract associated with a designated action, given a specified state.

The ratio of the number of tracts leased (offered) under experimental systems to the total number of tracts leased (offered) during the test period is denoted by X . The symbol Z represents the ratio of the number of all tracts leased during the test period to the total number of tracts leased during the planning period. It follows that XZ is the ratio of the number of tracts leased under experimental systems during the test period to the total number of all tracts leased during the planning period. If M tracts will be leased during the planning period, then MXZ is the number of tracts in the OCS experiment.

At this point it is possible to develop expressions for the worth associated with not testing, given by W_n , and the worth associated with a test of a specified size X , given by W_x . Consider first the expression for W_n .

The following terms are defined:

h = number of years in the testing period.

k = number of years in the planning period.

i = discount rate.

Without testing, the cash bonus bidding system is assumed to be employed throughout the planning period. The expected worth of a tract leased with this system at time $t = 0$ is given by

$$E = P(\theta b) V_1 + P(\theta r) V_2.$$

The discount factors are defined by

$$D^1 = \sum_{t=0}^{h-1} (1+i)^{-t}$$

$$D^2 = \sum_{t=h}^{k-1} (1+i)^{-t}$$



Suppose that tracts are leased uniformly during both period h and during period $k - h$. There will then be MZ/h tracts leased per year for h years, and $M(1 - Z)/(k - h)$ tracts leased per year for $k - h$ years. Therefore, we can write

$$W_n = E \left\{ \frac{MZ}{h} D^1 + \frac{M(1 - Z)}{k - h} D^2 \right\} \quad (4)$$

Now consider W_x . The marginal and posterior probabilities are computed from Bayes' Theorem:

$$P(B) = P(B/\theta b) P(\theta b) + P(B/\theta r) P(\theta r)$$

$$P(R) = 1 - P(B)$$

$$P(\theta b/B) = P(B/\theta b) P(\theta b)/P(B)$$

$$P(\theta r/B) = 1 - P(\theta b/B)$$

$$P(\theta b/R) = P(R/\theta b) P(\theta b)/P(R)$$

$$P(\theta r/R) = 1 - P(\theta b/R)$$

Denote the expectation associated with decisions given test signals by F_x . Let

$$H1 = \frac{MZ(1 - X)}{h} D^1 + \frac{M(1 - Z)}{k - h} D^2$$

$$H2 = \frac{MZX}{h} D^1$$

$$H3 = \frac{MZX}{h} D^1 + \frac{M(1 - Z)}{k - h} D^2$$

$$H4 = \frac{MZ(1 - X)}{h} D^1$$

The expectation functions, F_x , can now be expressed by

$$F_x(B, A_b) = P(\theta b/B) \{ V1(H1) + V3(H2) \}$$

$$+ P(\theta r/B) \{ V3(H1) + V4(H2) \}$$

$$F_x(B, A_r) = P(\theta b/B) \{ V3(H3) + V1(H4) \}$$

$$+ P(\theta r/B) \{ V4(H3) + V2(H4) \}$$



$$\begin{aligned}
 F_x(R, Ab) &= P(\theta_b/R) \{ V_1(H_1) + V_3(H_2) \} \\
 &\quad + P(\theta_r/R) \{ V_2(H_1) + V_3(H_2) \} \\
 F_x(R, Ar) &= P(\theta_b/R) \{ V_3(H_3) + V_1(H_4) \} \\
 &\quad + P(\theta_r/R) \{ V_4(H_3) + V_2(H_4) \}
 \end{aligned}$$

From these expressions we can write

$$\begin{aligned}
 W_x &= P(B) \{ \max [F_x(B, Ab), F_x(B, Ar)] \} \\
 &\quad + P(R) \{ \max [F_x(R, Ab), F_x(R, Ar)] \} \quad (5)
 \end{aligned}$$

Ordinarily, it would be sufficient to compute W_n and the W_x , and then to choose the test size at which the worth is at a maximum. However, we do not know the magnitude of the elements in the payoff matrix V . ^{4/}

The approach taken is to choose, on the basis of observed and inferred behavior, a V' which ranges over the likely values of the (normalized) payoffs. For example, because it is clear that making a correct decision for a given state of nature is better than making an incorrect decision, it follows that

$$V_1 > V_2, \quad (6)$$

$$V_4 > V_3. \quad (7)$$

Further, the cash bonus bidding system has been used for many years, rather than any one of the experimental systems. Assuming that, with our current state of knowledge, the same decision, Ab , would continue to be made in the future, it follows that we can infer the relationship given by

$$P(\theta_b) V_1 + P(\theta_r) V_2 > P(\theta_b) V_3 + P(\theta_r) V_4 \quad (8)$$

Although we believe that $P(\theta_b) > 0.5$, we also believe that, based on our current level of knowledge, the cash bonus bidding system would continue to be used even if $P(\theta_b)$ were as low as 0.5.^{5/} Stated equivalently, we find that when $P(\theta_b) = 0.5$, expression (8) becomes

$$V_4 - V_2 < V_1 - V_3 \quad (9)$$

^{4/} We do not have much information about P' either. Nevertheless, the numerical results are seen to favor modest test sizes at a level of P' which is intentionally favorable to testing in general.

^{5/} To the extent that $P(\theta_b) < 0.5$, and Ab would be chosen, the numerical results generated become more favorable to smaller test sizes. Of course, if we thought that Ab would be chosen only if $P(\theta_b) > 0.5$, the argument tends to favor larger test sizes.



A payoff matrix that satisfies (6), (7), and (9) is represented by

$$V' = \begin{bmatrix} 1.0 & 0 \\ 0 & V4 \end{bmatrix} \quad (10)$$

where $0 < V4 < 1.0$.^{6/} This range of $V4$, as well as inequality (9), appear reasonable when it is recalled that there are up to nine experimental systems to consider. Even if θ_r is the true state, and decision A_r is made, we still may not choose the "best" one of the experimental systems. That is, as the number of experimental systems increases, the posterior probabilities associated with any one of the experimental systems, $P(\theta_r/R)$, decline, so that the expected payoffs from choosing A_r also decline. Thus, if $V4$ (in normalized form) is considered an expected value over all experimental systems, the relationship given by (9) appears justified.

At first glance it might seem that the choice of the unit matrix for V' above is somewhat arbitrary. Some reflection, however, indicates that this is not the case. Any V' which satisfies the constraints in (6), (7) and (9) is equivalent for our purposes to the unit matrix given in (10). Any one of these alternative matrixes can be converted into (10) by adding (subtracting) a constant to any column, and/or by multiplying (dividing) the entire matrix by a scalar. Such operations do not affect the ranking of column elements or the ratio of column differences, so that all constraints are preserved.

In addition, our objective is to find the level of $V4$ at which $W_x = W_n$. This break-even level, expressed as a fraction of the feasible range of $V4$, is unaffected by changes in V' of the sort just described.

To prove this, we first set $W_x = W_n$, using equations (4) and (5). The solution is of the form

$$\frac{V1 - V3}{V4 - V2} = \psi \quad (11)$$

where ψ is a constant that depends upon the problem parameters. Let the solution of (11) be given by $V4 = \bar{V4}$. Define the relative break-even level of $V4$ by

$$\beta = \frac{\max V4 - \bar{V4}}{\max V4 - \min V4} \quad (12)$$

^{6/} The author is indebted to Bart McGuire of the Interior Department for suggesting this simplified form for V' . Professor McGuire also provided a computer program for generating the numerical results presented in Tables 3, 4 and 5.



Let V' be given by (10). It can be demonstrated that for any modification in this V' by a scalar and/or by adding constants to columns, the solution of (12) is always

$$\beta = \psi^{-1}/\psi ,$$

and the proof is completed.

Assuming that V_4 is uniformly distributed over its feasible range, it follows that β can be interpreted as the probability that W_x exceeds W_n , i.e.,

$$\beta = P(W_x > W_n).$$

On the basis of the magnitude of this measure for different test sizes and problem inputs, we can infer the appropriate size of the OCS leasing experiment. Numerical results are presented in Tables 3, 4 and 5.



Distribution List

Mr. Carl Perian
Suite 2187 Rayburn HOB
Washington, D.C. 20515

Mr. Tom Kitsos
Rm. 720
HOB Annex 1
Washington, D.C. 20515

Mr. Chuck Bedell
Rm. 719
HOB Annex 1
Washington, D.C. 20515

Mr. Dave Cahn
Rm. 720
HOB Annex 1
Washington, D.C. 20515

Mr. Michael Harvey
Deputy Chief Counsel
Senate Interior Committee
3206 Dirksen SOB
Washington, D.C. 20510

Mr. Harrison Loesch
Minority Counsel
Senate Interior Committee
Room 3202 Dirksen SOB
Washington, D.C. 20510

Mr. David Stang
Senate Interior Committee
Room 3202 Dirksen Building
Washington, D.C. 20510

Mr. Martin Belsky
House Judiciary Committee
Room 2137 Rayburn HOB
Washington, D.C. 20515

Dr. Darius W. Gaskins
Graduate School of Public Policy
University of California - Berkeley
Berkeley, California 94720

Mr. Thomas J. Teisberg
(same as Gaskins)

Mr. Norman Hartness
Office of Management & Budget
Room 8202 New EOB
Washington, D.C. 20503

Dr. William Fisher
Acting Assistant Secretary--E&M
Room 6654 Interior Building

Dr. Hermann Enzer
Acting Director
Office of Minerals Policy Development
Room 4351 Interior Building

Mr. Frank Kelly
Staff Assistant
A/S--LWR
Room 6627 Interior Building

Mr. Dennis Sachs
Deputy Assistant Secretary--LWR
Room 6616 Interior Building

Mr. Frank Edwards
Assistant Director--Minerals
Management, BLM
Rm. 5640 Interior Building

Mr. Red Patton
(same as Edwards)

Mr. Curt Berklund
Director, BLM
Room 5660 Interior Bldg.

Dr. Vincent McKelvey
Director, GS
Rm. 7A412 National Center
Reston, Virginia (MS 101)

Mr. Dale Bajema
USGS, Rm. 7A401
National Center (MS 105)

Mr. Rich Bernknopf
(same as Bajema)



Dr. Robert J. Kalter
Professor of Agricultural Economics
Cornell University
445 Warren Hall
Ithaca, New York 14850

Mr. Wallace Tyner
(same as Kalter)

Mr. Robert Lawton
Rm. 323
1129 - 20th Street, N.W.

Professor Robert Smiley
Graduate School of Business
& Public Administration
Cornell University
Ithaca, New York 14850

Professor Robert Lind
(same as Smiley)

Mr. James Curlin
Congressional Research Service
Ocean & Coastal Division
Library of Congress
Washington, D.C. 20540

Mr. Ed Strohbehn
NRDC
1710 N Street, N.W.
Washington, D.C. 20036

Mr. Steven D. Jellinek
Staff Director
Council on Environmental Quality
722 Jackson Place, N.W.
Washington, D.C. 20006

Mr. Charles Eddy
Council on Environmental Quality

Mr. John Freeman
Federal Energy Administration
New Post Office Building
12th & Pennsylvania Avenue, N.W.
Washington, D.C. 20461

Mr. Bruce Pasternack
Federal Energy Administration
Room 4109 New Post Office Building
Washington, D.C. 20461

Mr. William J. Van Ness
Chief Counsel
Senate Interior Committee
Room 3204 Dirksen Bldg.
Washington, D.C. 20510

Mr. Glenn Schleede
Domestic Council
Old Executive Office Building
Washington, D.C. 20500

Mr. Royston C. Hughes
The White House
Room 175 Executive Office Building
Washington, D.C. 20500

Mr. William W. Lyons
Deputy Assistant Secretary
Room 6116 Interior Building

Ms. Pamela Baldwin
Senate Commerce Committee
Immigration Building
119 D Street, N.E., Rm. A-405
Washington, D.C. 20510

Mr. John Hussey
Senate Commerce Committee
Rm. 435 Russell Building
Washington, D.C. 20510

Mr. Douglas Costle
Congressional Budget Office
Capitol Hill Annex
Washington, D.C. 20510

Mr. Nick Timenes
Congressional Budget Office
Capitol Hill Annex
Washington, D.C. 20510

Mr. Larry Oppenheimer
Congressional Budget Office
Capitol Hill Annex
Washington, D.C. 20510

Mr. Robert Niblock
Program Manager, Ocean Assessment Program
Office of Technology Assessment
119 D. Street, N.E.
Washington, D.C. 20510



Mr. Thomas Cotton
Ocean Assessment Program
Office of Technology Assessment
119 D Street, N.E.
Washington, D.C. 20510

Ms. Barbara Heller

Dr. Robert Wilson
Graduate School of Business
Stanford University
Stanford, California 94305



OCS
leasing

EXECUTIVE OFFICE OF THE PRESIDENT
COUNCIL ON ENVIRONMENTAL QUALITY
722 JACKSON PLACE, N. W.
WASHINGTON, D. C. 20006

January 23, 1976

Dear Mr. Secretary:

On December 18 Environmental Protection Agency Administrator Russell Train referred to the Council on Environmental Quality his determination, in accordance with Section 309 of the Clean Air Act, that the Proposed Oil and Gas Lease Sale for the Northern Gulf of Alaska (#39) is environmentally unsatisfactory as proposed and scheduled. Since then the Council, in conjunction with representatives of your Department, EPA, the Federal Energy Administration, the Office of Management and Budget, and the National Oceanic and Atmospheric Administration, has conducted an intensive review of the objections raised by Administrator Train with particular emphasis on the state of understanding of the environment of the Gulf of Alaska Outer Continental Shelf, on the proposed U.S. Geological Survey operating orders, and on the probable onshore impacts that would be triggered by a lease sale. I would like to thank you and your staff for the Department's excellent cooperation in this review.

As you know, in April 1974, CEQ submitted a report to the President, "OCS Oil and Gas - An Environmental Assessment," which concluded that the area proposed in this sale presented the highest development risks of any OCS frontier area from the standpoint of environmental quality. That report discussed in detail the unique storm, oceanographic, seismic, biological, and onshore conditions in the Gulf of Alaska. The report also made numerous recommendations for improving the Department's OCS planning and management processes. CEQ's 1974



conclusions and recommendations served, in large part, as the basis for EPA's December 18 referral.

The Council recognizes that over the past year and a half the Department has taken many constructive steps in response to CEQ's recommendations, and on its own initiative, to improve the substance and process of OCS decisionmaking. These include initiating substantial baseline environmental studies in frontier areas, establishing a joint Federal-State OCS Advisory Board, expanding the tract nomination process to include the concerns of states and the public, increasing public disclosure of geological and geophysical data, and providing for state and public review of the development plans of OCS lessees. We commend the Department for these actions.

During the period of our review of EPA's Section 309 referral the Council has also been impressed with the Department's clear commitment to incorporating the best and most recent environmental information available into the preparations for your decision on this lease sale. The Department appears to us to be approaching this matter even-handedly and a number of environmentally protective options are being considered in the decision-making process.

In the course of our review over the past month, the Council has focused on two broad questions and four key environmental issues. The first question involves delay of the sale. We have examined the issues to determine whether, given the unique problems and conditions in the Gulf of Alaska, a delay of this entire sale is justified on the merits. Second, we have examined alternatives to a blanket delay to determine the dimensions and conditions of an environmentally acceptable sale. We have approached both of these questions within the context of the following four environmental issues:

- first, the adequacy of data on geological hazards for the purpose of selecting tracts that can be developed safely;
- second, the adequacy of biological and oceanographic data for the purpose of selecting tracts that avoid or minimize the vulnerability of critical species and habitat to damage from oil spills and drilling operations;
- third, the capacity of the State of Alaska and local communities adjacent to the proposed sale area to cope with the impact of the industrial activity that will be triggered by a lease sale; and
- fourth, the adequacy of OCS operating orders for protecting the Gulf of Alaska from environmental damage.



Each of these issues was examined as to whether a blanket delay would improve significantly your ability to make environmentally protective tract selections and the Alaskans' ability to deal with the onshore impacts of development (see Attachment A).

We have concluded that the benefits of delaying the sale, and the extent of such a delay, depend upon and vary with the nature of each issue:

- on the basis of publicly available information, it appears that the quality of knowledge on geologic hazards would be improved significantly by additional analysis of existing data and by further seismic and stratigraphic field work during the summer of 1976. (In addition to publicly available data, USGS uses substantial proprietary data.)

- the environmental baseline studies are in their very early stages and significantly improved biological and oceanographic information cannot be expected realistically before two more years of field study
- from one to two years is needed for the State of Alaska and potentially affected local communities to take the legislative, annexation, zoning, planning, programmatic, and fiscal steps necessary to deal with expected onshore impacts.
- finally, adequate operating orders can be developed, in conjunction with EPA and CEQ, within two to three months.

We believe that it would be most desirable, from an environmental point of view, to delay the sale for a sufficient period of time to permit substantial realization of the above set of benefits. We recommend that you give careful consideration to that option.

The Council recognizes, of course, that the final decision is yours and that you must decide whether the environmental benefits gained by such delay outweigh the costs of postponing potential oil and gas production and revenues. If, on balance, you conclude that a blanket delay of the sale is not in the national interest, the Council strongly urges that the sale be limited to those tracts that, relative to other tracts in the original proposal, appear to represent the lowest possible degree of risk of environmental damage. For that reason, we endorse Administrator Train's recommendation of January 19, 1975 (copy attached) that the sale should be restricted to Icy Bay Tracts 75-79, 117-125, 160-169, and 204-206. These tracts make up a contiguous block in the northeasternmost zone of the original sale proposal. Fortunately, they cover an

area which appears to be highly promising in oil and gas potential and relatively low in vulnerability to environmental damage. We believe that both factors should be given great weight in your consideration of areas to offer for sale.

In addition, we have the following specific recommendations:

- the sale date should be set for as late as possible to give USGS maximum time to evaluate existing data on geological conditions so that unsafe tracts can be eliminated from the offering prior to the sale date
- OCS operating orders 2, 7, and 8 should be issued in final form before the sale date (see Attachment B for detailed recommendations)
- environmental information gathering and analysis should continue in all areas and future sales in those Northeast Gulf of Alaska areas not leased should be deferred for at least two years, or until we have a substantially improved understanding of the environment of such areas
- the Department should take special steps, similar to those taken with respect to construction of the Trans-Alaska Pipeline, to assure that State and other Federal agency interests are taken into account in managing the Alaskan OCS program and to establish and coordinate Federal/State scientific and technical review of proposed regulations, exploration and development plans, and other appropriate operational matters (see Attachment C for our detailed recommendations on this matter).

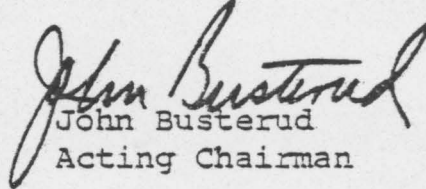


- the Department, working through the Federal/State Alaskan Regional OCS Advisory Committee, should conduct an early review of the entire proposed Alaskan OCS lease schedule and develop recommendations concerning modification in the sequence and timing of future Alaskan OCS sales. (See also Attachment C).

Finally, we are concerned with the effective operation of the National Environmental Policy Act as it relates to this lease sale and future OCS lease sales. As noted earlier in this letter, CEQ has been impressed with the Department's commitment to using all available environmental information in its decisionmaking process and to considering a wide range of environmentally protective options and we urge you to continue this practice. However, a number of the options and some supporting material developed late in this process are not included in the final environmental impact statement. We believe that environmental impact statements for future OCS sales can be improved as an aid to decisionmaking and as documents for the information of other Federal agencies and the public if they are planned and timed to: 1) reflect, as fully as possible, the latest available biological, geological and oceanographic information, 2) discuss the OCS operating orders in more detail, 3) analyze the cumulative onshore effects of OCS development in the Gulf of Alaska and the adjacent region, and 4) present all reasonable alternatives and options to the sale as originally proposed.

Once again, the Council wants you to know how much we appreciate your cooperation throughout the course of this review. As in the past, we stand ready to work with you in implementing our recommendations and on other environmental aspects of the OCS leasing program.

Sincerely,


John Busterud
Acting Chairman

Honorable Thomas S. Kleppe
Secretary of the Interior
Washington, D.C. 20240

Attachments



-5-

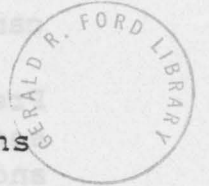
Summary of CEQ Review of Major Issues Raised
by Section 309 Referral,
Northern Gulf of Alaska (NEGOA) Lease Sale

I. Environmental/Oceanographic Data Base

The principal vehicle for improved understanding of frontier OCS regions, the BLM-NOAA Outer Continental Shelf Environmental Assessment Program (OCSEAP), was initiated in 1974. It has had only one full field research season (1975). The data acquired are thus quite limited. Furthermore, analysis of the first season's data is incomplete. BLM in addition has researched the available historical literature. Review of the environmental impact statement indicates this historical information base is only marginally useful.

It appears that the environmental/oceanographic data base for tract selection and operations regulation can be substantially improved by at least two more years of work under the OCSEAP. The following are the most critical research needs for these purposes:

- Physical Oceanography: Better understanding of circulation patterns in the general leasing area, near shore processes, and weather patterns will lend to better capability for predicting oil slick trajectories. Circulation models can be developed and existing models can be refined. Additional time required: 2 years
- Fish (Adult): Present NEGOA information is historical, and perhaps out of date. Recent data are needed to predict the effect of operations on resident and migratory populations. Spawning and nursery ground information are especially important. The information from the 1975 comprehensive survey is not yet available. Additional time required: 1-2 years
- Fish (Ichthyoplankton - eggs, larvae, and young) This information is perhaps most important



Summary of GND Review of Major Issues Raised
by Section 309 Referral,
Northern Gulf of Alaska (NEGOA) Lease Sale

because of the vulnerability of this critical life stage to perturbation. No data are presently available. Additional time required: 2+ years.

- Plankton (other than Ichthyoplankton) Information of plankton populations and effects of oil on them is very limited at the present time.

Other areas of research are, of course, important, and will lead to significantly improved risk assessment in connection with tract selection and operational decisions.

II. Geology

Leasing decisions must take into account bottom conditions (slumping and unstable sediments), surface and subsurfacing faulting, and other seismic conditions to assure that a tract can be safely operated before it is leased.

Preliminary maps from OCSEAP studies showing faults, epicenters sediment thickness and distribution, and areas of slumping and potential sea floor instability were reviewed. However, it is unclear that this information is precise enough for tract by tract leasing decisions. Additional information on geologic structures and faulting surfaces is held on a proprietary basis by Geological Survey.

Without the opportunity to review the proprietary data the following additional research appears necessary.

- More precise location of shallow fault traces and age of last displacement.
- Further identification of unstable bottom sediments and evaluation of the age of historical slumps and slides.
- Correlation of earthquake epicenter data with fault location data; further evaluation of probability location and energy of future major earthquakes.

- Improved understanding of Gulf of Alaska seismicity.

Additional time required: 1-2 years

III. OCS Orders

The proposed Gulf of Alaska OCS orders have been reviewed by EPA and CEQ and a number of recommendations made. Geological Survey has made substantial improvements in the OCS orders. Attachment B contains CEQ's detailed recommendations for the orders, including issuing certain orders in final form prior to the sale.

Additional time required: 2-3 months

IV. Onshore Impacts

A careful review of potential onshore impacts was conducted in connection with a delegation from the State of Alaska. A number of onshore activities in connection with the NEGOA lease sale have already begun. The sale itself is likely to trigger a number of major, irreversible actions. Alaska has taken steps to assist impacted communities in their planning efforts, but these activities are still in their early stages.

It is clear that prior to leasing, a certain level of sophistication is necessary on the part of government units to assure that onshore development is not destructive to the environment and quality of life. The communities that will be impacted by the NEGOA sale, and by most future sales, do not have the level of sophistication common to most communities in developed areas.

Time is necessary before leasing to allow the following actions:

- Provision of planning assistance to local governments.
- Preparation of comprehensive local plans to assure facilities are situated and developed in the best manner and location.



- Enactment of zoning codes based on the comprehensive plans.
- Development and implementation of statewide procedures for energy facility siting in the coastal zone.

Additional time required: 1-2 years

The proposed... of Alaska... have been reviewed by EPA and CHD and a number of recommendations made. Geological Survey has made substantial improvements in the OCS orders. Attachment 3 contains CHD's detailed recommendations for the orders, including issuing certain orders in final form prior to the sale.

Additional time required: 3-5 months

IV. Onshore Impacts

A careful review of potential onshore impacts was conducted in connection with a delegation from the State of Alaska. A number of onshore activities in connection with the NEGOA lease sale have already begun. The sale itself is likely to trigger a number of major, irreversible actions. Alaska has taken steps to assist impacted communities in their planning efforts, but these activities are still in their early stages.

It is clear that prior to leasing, a certain level of sophistication is necessary on the part of government units to assure that onshore development is not destructive to the environment and quality of life. The communities that will be impacted by the NEGOA sale, and by most future sales, do not have the level of sophistication common to most communities in developed areas.

Time is necessary before leasing to allow the following actions:

- Provision of planning assistance to local governments.
- Preparation of comprehensive local plans to assure facilities are sited and developed in the best manner and location.



Council on Environmental Quality
Comments and Recommendations on Proposed OCS Orders
for the Gulf of Alaska

General Comments



These comments are addressed to the proposed OCS Orders issued under cover of January 12, 1976. They are intended to supplement those of the Environmental Protection Agency.

1. OCS Orders should be promulgated very early in development of an OCS area. Order numbers 2, "Drilling Procedures;" 7, "Pollution and Waste Disposal"; and 8, "Platforms and Structures," should become effective prior to the lease sale. The need for implementation of number 2, is clear because exploratory drilling will begin as soon after a lease sale as the lease-holder can secure equipment. Number 7 is required because since initiation of drilling introduces the first possibility of an oil spill incident, pollution control and spill contingency regulations need to be promulgated.

As to number 8, platform design may be started soon after leasing and before oil discovery, and design criteria for storms and earthquakes should be available to put potential lessees on notice. We recognize that sufficient site specific information will not be available prior to leasing for precise structural standards. The proposed third party review process and our recommendations for review of development plans (see Attachment C) should compensate for this lack of specificity.

2. There are two significant problems with order number 9. Transportation and storage facilities are designed in parallel with platforms and the same timing should apply as for order number 8. However, we recognize it may be impossible to have this order out prior to the sale. Present efforts to coordinate the involvement of other agencies should be expedited, particularly the memorandum of understanding with the Office of Pipeline Safety.

Also the proposed orders appear to cover all activities which will occur in oil and gas development with the exception of oil and natural gas transportation and storage. A version of OCS Order #9 which covers offshore storage and tanker transportation as well as pipelines is needed.

3. The Orders should be as specific as possible in establishing standards for construction and operation of facilities. They should be updated frequently as further research provides better understanding of operating conditions in the Gulf of Alaska.

OCS Order #2

p. 2-2 Because of the oceanographic and meteorological conditions in the Gulf of Alaska, only semi-submersible drilling rigs should be utilized in water depths greater than 200 ft. Jack-up rigs should be permitted in water depths less than 200 ft. only if they are capable of withstanding the severe seismic conditions (earthquakes and tsunamis) which often occur in the Gulf of Alaska in addition to often expected oceanographic and meteorological conditions. Consequently, for item 1, the following wording is recommended: "Drilling Platforms and Vessels. All drilling platforms and drilling vessels should be capable of withstanding the oceanographic, meteorological and seismic-induced (earthquakes and tsunamis) conditions of the Gulf of Alaska. Jack-up rigs may be utilized in water depths of 200 ft. or less provided that data are available to indicate that ocean floor stability is sufficient to support the rig and that the rig can satisfy the seismic conditions specified in Section 1.A(4) of OCS Order #8 for fixed platforms."

p. 2-2 Well Casing. No mention is made in this section of earthquake design for casing strings. A worst case would be horizontal faulting tending to shear the casing, and this should be considered in casing design.

For item 2, the following wording is recommended for the last phrase in the first sentence: "...and the Application for Permit to Drill shall include the casing design safety factors for collapse, tension, burst and shear failure due to earthquakes."

p. 2-11, items 4.C and D. The wording should be changed to call for blind/shear rams rather than blind rams as is presently specified.

p. 2-15, item 5.B.(1) and (2). No sensitivity is indicated for mud monitors. Since mud loss or gain is the first indication of well control problems, a sensitivity for these indicators of 1 bbl for visual warning and 5 bbl for audio warning should be specified.

p. 2-18, item 6.C. Well control training does not have any uniform qualification procedure. A licensing or accreditation system should be established by Geological Survey for well control schools, and only graduates of licensed schools should be used in exploratory drilling in the Gulf of Alaska.

OCS Order #8

General - All references to an effective date of this order should be deleted. Specifically, the references are: p. 8-2, second paragraph; p. 8-9, item 4.B; p.8-12, item 4.D; p. 8-15, item 4.D.(1)(f)(ii); p. 8-20, item 4.D. (1)(f)(iv); p. 8-25, item 4.D(2)(c); p. 8-34, item 4.D.(4). We perceive no reason for grace times in an area where no operations are presently underway.

p. 8-3, item 1.A.(1). Because of the limited meteorological data available for the Gulf of Alaska, the severe storm probability should be 0.5 percent per year, and severe storm characteristics should be verified by USGS or NOAA. As presently worded, no standard is indicated for severe storm probability estimates. Also in this item a new paragraph should be added at the end: "Periodically, and following severe storms or seismic events, platforms shall be inspected for structural failures. Any failures found shall be promptly repaired and a statement of the failure and repair measures taken shall be submitted as an addendum to the application for installation (item 2)."



p. 8-3, item 1.A.(4). No mention is made of design considerations based on the combined effects of earthquakes and tsunamis. Since the most likely occurrence of tsunamis is following an earthquake, these considerations should be a part of seismic loading criteria.

p. 8-4, item 1.A(4)(g). It is not clear how one accelerometer on the platform will help in ascertaining whether some portion of the platform is particularly sensitive to seismic indicated motion. The following wording is recommended: "An array of strong motion accelerometers shall be installed on each platform to correlate the observed system response with measured motions should an earthquake occur. Data from these correlations and a comparison to predicted system response shall be submitted as an addendum to the application for installation (item 2). If during recorded earthquake motions any portion of the system proves particularly sensitive to ground motions, necessary remedial measures shall be taken."

p. 8-7, item 2.E(1) should become item 2.A(8) to facilitate design review by third parties or the public.

p. 8-8, item 3. The discussion of the structure of the third party certification process should be expanded. It is particularly important that the certifying organization be independent and free from industry pressure. In addition to this third party review, an arrangement is recommended in Attachment C which will facilitate outside review.

p. 8-20, item 4.D(1)(g)(i). The following wording is recommended: "Curbs, gutters, and drains which are adequate to collect contaminants under all weather conditions likely to occur, shall be installed in all deck areas...[remainder of wording same as earlier]."

p. 8-20, item 4.D(1)(h)(i). The following wording is recommended: "A fire-fighting system adequate to provide needed protection under all weather conditions likely to occur in areas where production handling equipment or other concentrations of flammable sources are located shall be installed. The fire-fighting system shall be rigid pipe with fire hose stations and may include a fixed spray system.

Chemicals may be used if determined to provide adequate fire protection control" [remainder of wording same as earlier].

p. 8-25, item 4.D.(2)(c). The following wording is recommended: "Simultaneous Operations. Other Activities, such as drilling, workover, wireline and major construction operations, should be avoided when wells are producing. Prior to conducting activities concurrently with production operations which could increase the possibility of occurrence of undesirable events, such as harm to personnel or to the environment, or damage to equipment, an Operator's Contingency Plan shall be filed for approval by the appropriate District Supervisor. Activities requiring such a Plan are drilling, workover, wireline, and major construction operations. No more than one such activity in addition to production may occur at the same time [remainder of wording as earlier]."

p. 8-35, item 4.D.(4) between items (c) and (d) a new item should be added: "Methods for testing personnel who have taken training to ascertain that they are qualified."

OCS Order #7

General - As part of the regional contingency plan, all shoreline shall be identified as to its sensitivity to oil spills, and appropriate response action designated for each area. This will result in less likelihood of inappropriate response if an oil slick approaches a sensitive area, and in the event of a massive spill some priority will have been designated for response action.

p. 7-6, item 3.A. Specification should be made of what is meant by "Available to each operator," since time is so important in spill response. Booms should be available within one hour in good weather. This item should also specify the sea state capability and length of containment booms which are available.



p. 7-8, item 3.B(4)(a). Frequency and quality of training for response operating team personnel should be specified.

OCS Order #9

General - The necessity for this order was discussed under overall comments above. Referring to OCS Order #9 for the Gulf of Mexico, the following specific recommendations are made.

1. The best available flow monitoring equipment (such as used for the Alaska pipeline) should be specified for any offshore pipelines.
2. All valves, fittings, and other appendages to a pipeline should be considered as part of the pipeline and covered by this order.
3. Corridors should be considered for pipelines in order to limit environmental impact of landfalls or impact on fishing.
4. Pipeline completion reports should specify the accuracy to which the actual pipeline location is determined. The location should be to within ± 10 ft. with respect to a nearby shore location.

OCS Order #5

General - Because of the possibility of subsurface casing failures due to seismic events, two safety valves should be specified for this area, a surface controlled valve more than 100 ft. below the surface, and a velocity actuated valve just above each producing zone.

p. 5-4, item 3. The following wording is recommended:
"Temporary Removal. Each wireline -- or pumpdown -- retrievable subsurface safety device may be removed for a routine operation which does not require approval of a Sundry Notice and Report on Wells (Form 9-331) for a period not to exceed fifteen (15) days provided notice is given with an indication of the reason for removal. The well should be clearly identified [remainder of wording same as earlier]."

-2-

Alaskan OCS
Federal-State Relationships

Background

- 9 OCS sales scheduled for the Alaskan OCS over the next three years; more are likely in the future; massive potential oil industry impact on State; State is undeveloped in character, lacks existing infrastructure, has a fragile and highly vulnerable coastal environment; potential impact on other Federal interests (parks, forests, wildlife refuges).
- The State, as well as the Federal Government, has a legitimate interest in protecting the natural resources in the proposed sale areas and minimizing onshore impacts.
- Three institutional mechanisms now exist with specific focus on Federal and State interests in the Alaskan OCS: The Alaskan OCS Regional Advisory Committee, a subunit of the National OCS Advisory Board; the BLM's Alaskan OCS Office; and the USGS' Alaska Area Supervisor.

Proposed Actions

- The Department should establish a special Alaskan OCS Coordinator in the Office of the Secretary.
 - o This would give high level visibility and support to the Alaskan OCS program comparable to that given to construction of the Trans-Alaskan Pipeline.
 - o The Coordinator would be responsible for assuring that the Department's mechanisms for Federal/State cooperation are operating effectively.



- The Department's Alaskan OCS Coordinator, in conjunction with the Alaskan OCS Regional Advisory Committee (including representatives of CEQ, EPA, FEA, and other appropriate Federal agencies) should conduct a reexamination of the present leasing schedule for Alaskan OCS.

- ° It would report to the Secretary, within three months, any recommendations for modifying the sequence and timing of remaining announced sales and potential future sales

- ° The objective would be to improve the Department's ability to take advantage of existing and emerging environmental data and to minimize the cumulative social and economic impacts on the state and on other Federal interests.

- The Department should establish, along the model of the Alaska Pipeline Office, an Alaska-based interdisciplinary technical/scientific review group (or groups as appropriate) composed of experts representing the State and other Federal agencies.

- ° This group (or groups) would advise the key BLM and USGS officials in Alaska

- ° It would be responsible for reviewing exploration and development plans, training programs, and for on-site surveillance and monitoring of construction and operations on a frequent schedule

- ° It would also be responsible for reviewing the results of environmental baseline and monitoring studies and for recommending changes to agency procedures or operations indicated by such results



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JAN 19 1976

OFFICE OF THE
ADMINISTRATOR

Dear Russ:

The purpose of this letter is to offer the Environmental Protection Agency's position on the options being considered by the Secretary of the Interior with respect to oil and gas leasing on the Outer Continental Shelf in the Northern Gulf of Alaska (NEGOA, sale #39). This position follows up my letters of December 18, 1975, to you and Secretary Kleppe stating my determination under Section 309 of the Clean Air Act that the proposed sale, as described in the Bureau of Land Management's final environmental statement, would be unsatisfactory from the standpoint of environmental quality.

In my December 18 letters, I requested that the Secretary of the Interior delay the proposed sale until adequate Operating Orders had been formulated for the Gulf of Alaska, and until completion of environmental baseline and other special studies presently being conducted in the Gulf. Such a delay would, I felt, also be exceedingly valuable to the State of Alaska in order that the State and affected local communities could complete their coastal studies and planning and establish their coastal zone management program.

Since the 18th, we have had several productive meetings, under your Council's leadership, with the Department of the Interior and representatives of the State of Alaska and the National Oceanic and Atmospheric Administration. As a result of these meetings, EPA is in a position to be more specific in its observations and recommendations. These are outlined below in the two major areas of concern - Operating Orders and Environmental Studies.



General

The Bureau's final environmental statement states that OCS oil development in NEGOA is likely to result in severe damage to the sensitive coastal ecosystems. CEQ's report OCS Oil and Gas -- An Environmental Assessment describes serious reservations concerning development of the OCS in NEGOA. The report points out that there exists a very strong probability that any oil spills occurring in the lease area will impact highly productive fish nursery and spawning areas, as well as indigenous and migratory bird populations. The CEQ report correctly states that the probability of severe spills is greater in NEGOA than other proposed OCS areas because of the greater demand on OCS technology due to the severity of storms in the region, earthquake potential and, in general, the formidable problems of working in a sub-arctic environment.

Studies currently being performed by NOAA under contract to BLM generally support the statement that the NEGOA is an area of unique highly productive biological resources that may suffer considerable damage if OCS development is allowed to occur without exceptional measures to protect the environment. Such measures must include technology requirements to insure safe operations (both in the drilling and production phases) in the face of severe seismic and storm conditions, and plans and controls to mitigate the adverse effects of onshore developments (for example, provision of adequate public facilities and locational controls to prevent wetlands or other environmental destruction).

Operating Orders

EPA has repeatedly expressed its concerns over the Operating Orders for the Gulf of Alaska dating back to our March 1975 comments on the proposed Operating Orders which appeared in the Federal Register in January 1975. (These proposed orders were in essence operating orders for the Gulf of Mexico.) Since that time EPA has offered recommendations for development of orders for the unique environmentally hazardous conditions in the Gulf of Alaska. These recommendations follow closely the recommendations for improving the system of Operating Orders as published in CEQ's report.

It is our firm position that final Operating Orders acceptable to EPA should be published before any leasing takes place in the Gulf of Alaska. The State of Alaska, which has had considerable experience in administering the development of the Cook Inlet oil and gas fields, should be asked to participate in the development of final Orders. With an accelerated effort including EPA and State of Alaska participation, such orders could realistically be produced within two months.

EPA's most recent detailed comments on what we would consider to be adequate Operating Orders were contained in staff memoranda of January 8 and 15, 1976, which are enclosed for your reference. In summary: (1) EPA has no objection to the Department's drafts of Orders No. 1, 3, 4, 6, 11 and 12 (as proposed on January 6, 1975, or in the redrafted orders which were sent to us on January 12, 1976); (2) EPA believes that Orders No. 2, 5, 7, 8 and 9 require further modification in accordance with our comments of January 8 and 15, 1976.

Additionally, we note that sufficient site-specific information does not currently exist to write the detailed performance requirements for Order No. 8 which ideally should be written. Therefore, it is EPA's position that specific design criteria should be developed (as outlined in our January 8, 1976, comments) and that reviews including the use of these criteria should be conducted prior to the development phase. We note in the final environmental statement that the Department states that it will prepare environmental assessments and if necessary, environmental impact statements, on the development plans. We concur with the Department's commitment and request that the assessments and statements be made available for EPA review.

Environmental Studies

In our recent meetings (as well as in the Department's analysis of the hazards contained in its final environmental statement), a very strong case has been made for a 2-3 year delay in oil and gas leasing. I would like to outline a number of benefits such a delay would afford.

Sufficient time would be provided to complete an environmental impact statement on all proposed Alaska OCS development. This statement would provide an



intercomparison of the energy resource/environmental impact trade-offs among the various Alaska OCS regions. It would insure that initial Alaska OCS development would represent the best balance between energy resource recovery and ecological considerations.

The State of Alaska would be given sufficient time to develop a comprehensive coastal zone management program (CZMP) that would integrate mineral resource extraction and its associated onshore developmental impacts, with other competing or multiple use activities such as fishing, transportation, recreation, aesthetics, etc. The CZMP in conjunction with the environmental statement on Alaskan OCS development would give a reasoned approach that would help responsible agencies minimize ecological impact. This approach would be firmly based on studies performed over an ecologically meaningful time period rather than on the preliminary data now available and would provide an informed basis for decision making and evaluation which does not presently exist.

NOAA's environmental baseline assessment program dealing with NEGOA would be more complete. These study results would provide an adequate description of environmental (physical, chemical, biological) conditions needed for assessing the ecosystem impact of OCS development. Our present knowledge is far too limited to make definitive statements regarding qualitative and quantitative ecological disturbances that may result from oil extraction operation. Further effort in the NOAA study is needed to make adequate judgments concerning tract deletions or special lease stipulations to protect the environment.

If in the national interest it becomes imperative to proceed with the sale this year, it is our view that such an action could only be made environmentally satisfactory if the following steps are taken:

°Limited Sale

The sale should be restricted to the lease area in the Northeastern zone of the Icy Bay tracts Nos. 75-79, 117-125, 160-169, and 204-206.

Such a limited sale would involve minimal offshore environmental disturbance while allowing an estimated 30% of the total crude oil resource to be developed.

By restricting the sale to one contiguous area many technological or operational advantages are gained which provide a greater level of ecological safety than would be assured if scattered sections are offered for lease.

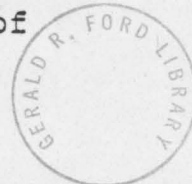
Some of the advantages are the consolidation of oil storage areas, minimizing the number of offshore tanker loading facilities, minimizing the miles of oil well connecting pipeline required, restricting onshore facilities to one relatively convenient location, minimizing the number of platforms required and minimizing both the number, routes, and distance to be traversed by tankers, work boats and drilling platforms. Containment and consolidation criteria are essential features to insure minimum impact and to develop experience in working in this area.

The Northeast Zone represents a large area with good prospects for sizable oil finds if oil and gas deposits exist in the Gulf. Research and coastal management activities should be much more developed before other regions of the NEGOA OCS are considered for additional lease sales.

°Operating Orders As recommended above, Operating Orders should be promulgated in final form prior to the lease sale concurrent with a commitment by Interior to allow an EPA review of environmental assessments or statements prepared in conjunction with the review of development plans.

°Exploration Plans

It is evident that the onshore environmental (as well as social and economic) effects of both exploratory and production activities are likely to be highly disruptive and could be disastrous unless carefully controlled within a properly planned framework. It is also evident that such plans and controls are not in place at present. The need for such improvements presents a strong argument in favor of a delay, but again if a sale must be held this year, a limitation in the geographic dispersion of tracts offered would assist the Alaska CZM and local planners by enhancing their capabilities to predict the location and extent of impacts on a particular area.

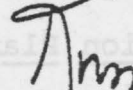


More importantly, the Secretary of the Interior should make maximum efforts to assist the State of Alaska in planning for and controlling onshore development. In particular, this would appear to be important to the Alaskan Native Village of Yakutat. It has been suggested that the Secretary should utilize his trust authorities and responsibilities to assist this community.

The Department should further facilitate Alaska State-local planning by including lease stipulations (or developing other appropriate regulatory means) requiring submission of detailed exploration plans. Such plans should be available for review by Federal, State and local agencies prior to Interior approval, and should cover phasing of exploratory operations, onshore facilities, offshore support needs and transportation needs.

EPA is available to discuss the position outlined above at any time. I am most grateful for the thorough review you and your staff have conducted and for the serious consideration you have given to our views. Together we have, I believe, shown how the Section 309 referral process can work to illuminate the environmental problems and alternatives in issues of unusual national and environmental significance, and I am most hopeful that this process will lead to a course of action that is best for all concerned.

Sincerely yours,



Russell E. Train
Administrator

Honorable Russell W. Peterson
Chairman
Council on Environmental Quality
722 Jackson Place, N.W.
Washington, D.C. 20006





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JAN 19 1976

File 915

OFFICE OF THE
ADMINISTRATOR



Dear Russ:

The purpose of this letter is to offer the Environmental Protection Agency's position on the options being considered by the Secretary of the Interior with respect to oil and gas leasing on the Outer Continental Shelf in the Northern Gulf of Alaska (NEGOA, sale #39). This position follows up my letters of December 18, 1975, to you and Secretary Kleppe stating my determination under Section 309 of the Clean Air Act that the proposed sale, as described in the Bureau of Land Management's final environmental statement, would be unsatisfactory from the standpoint of environmental quality.

In my December 18 letters, I requested that the Secretary of the Interior delay the proposed sale until adequate Operating Orders had been formulated for the Gulf of Alaska, and until completion of environmental baseline and other special studies presently being conducted in the Gulf. Such a delay would, I felt, also be exceedingly valuable to the State of Alaska in order that the State and affected local communities could complete their coastal studies and planning and establish their coastal zone management program.

Since the 18th, we have had several productive meetings, under your Council's leadership, with the Department of the Interior and representatives of the State of Alaska and the National Oceanic and Atmospheric Administration. As a result of these meetings, EPA is in a position to be more specific in its observations and recommendations. These are outlined below in the two major areas of concern - Operating Orders and Environmental Studies.

General

The Bureau's final environmental statement states that OCS oil development in NEGOA is likely to result in severe damage to the sensitive coastal ecosystems. CEQ's report OCS Oil and Gas -- An Environmental Assessment describes serious reservations concerning development of the OCS in NEGOA. The report points out that there exists a very strong probability that any oil spills occurring in the lease area will impact highly productive fish nursery and spawning areas, as well as indigenous and migratory bird populations. The CEQ report correctly states that the probability of severe spills is greater in NEGOA than other proposed OCS areas because of the greater demand on OCS technology due to the severity of storms in the region, earthquake potential and, in general, the formidable problems of working in a sub-arctic environment.

Studies currently being performed by NOAA under contract to BLM generally support the statement that the NEGOA is an area of unique highly productive biological resources that may suffer considerable damage if OCS development is allowed to occur without exceptional measures to protect the environment. Such measures must include technology requirements to insure safe operations (both in the drilling and production phases) in the face of severe seismic and storm conditions, and plans and controls to mitigate the adverse effects of onshore developments (for example, provision of adequate public facilities and locational controls to prevent wetlands or other environmental destruction).

Operating Orders

EPA has repeatedly expressed its concerns over the Operating Orders for the Gulf of Alaska dating back to our March 1975 comments on the proposed Operating Orders which appeared in the Federal Register in January 1975. (These proposed orders were in essence operating orders for the Gulf of Mexico.) Since that time EPA has offered recommendations for development of orders for the unique environmentally hazardous conditions in the Gulf of Alaska. These recommendations follow closely the recommendations for improving the system of Operating Orders as published in CEQ's report.



It is our firm position that final Operating Orders acceptable to EPA should be published before any leasing takes place in the Gulf of Alaska. The State of Alaska, which has had considerable experience in administering the development of the Cook Inlet oil and gas fields, should be asked to participate in the development of final Orders. With an accelerated effort including EPA and State of Alaska participation, such orders could realistically be produced within two months.

EPA's most recent detailed comments on what we would consider to be adequate Operating Orders were contained in staff memoranda of January 8 and 15, 1976, which are enclosed for your reference. In summary: (1) EPA has no objection to the Department's drafts of Orders No. 1, 3, 4, 6, 11 and 12 (as proposed on January 6, 1975, or in the redrafted orders which were sent to us on January 12, 1976); (2) EPA believes that Orders No. 2, 5, 7, 8 and 9 require further modification in accordance with our comments of January 8 and 15, 1976.

Additionally, we note that sufficient site-specific information does not currently exist to write the detailed performance requirements for Order No. 8 which ideally should be written. Therefore, it is EPA's position that specific design criteria should be developed (as outlined in our January 8, 1976, comments) and that reviews including the use of these criteria should be conducted prior to the development phase. We note in the final environmental statement that the Department states that it will prepare environmental assessments and if necessary, environmental impact statements, on the development plans. We concur with the Department's commitment and request that the assessments and statements be made available for EPA review.



Environmental Studies

In our recent meetings (as well as in the Department's analysis of the hazards contained in its final environmental statement), a very strong case has been made for a 2-3 year delay in oil and gas leasing. I would like to outline a number of benefits such a delay would afford.

Sufficient time would be provided to complete an environmental impact statement on all proposed Alaska OCS development. This statement would provide an

intercomparison of the energy resource/environmental impact trade-offs among the various Alaska OCS regions. It would insure that initial Alaska OCS development would represent the best balance between energy resource recovery and ecological considerations.

The State of Alaska would be given sufficient time to develop a comprehensive coastal zone management program (CZMP) that would integrate mineral resource extraction and its associated onshore developmental impacts, with other competing or multiple use activities such as fishing, transportation, recreation, aesthetics, etc. The CZMP in conjunction with the environmental statement on Alaskan OCS development would give a reasoned approach that would help responsible agencies minimize ecological impact. This approach would be firmly based on studies performed over an ecologically meaningful time period rather than on the preliminary data now available and would provide an informed basis for decision making and evaluation which does not presently exist.

NOAA's environmental baseline assessment program dealing with NEGOA would be more complete. These study results would provide an adequate description of environmental (physical, chemical, biological) conditions needed for assessing the ecosystem impact of OCS development. Our present knowledge is far too limited to make definitive statements regarding qualitative and quantitative ecological disturbances that may result from oil extraction operation. Further effort in the NOAA study is needed to make adequate judgments concerning tract deletions or special lease stipulations to protect the environment.

If in the national interest it becomes imperative to proceed with the sale this year, it is our view that such an action could only be made environmentally satisfactory if the following steps are taken:

°Limited Sale

The sale should be restricted to the lease area in the Northeastern zone of the Icy Bay tracts Nos. 75-79, 117-125, 160-169, and 204-206.

Such a limited sale would involve minimal offshore environmental disturbance while allowing an estimated 30% of the total crude oil resource to be developed.



By restricting the sale to one contiguous area many technological or operational advantages are gained which provide a greater level of ecological safety than would be assured if scattered sections are offered for lease.

Some of the advantages are the consolidation of oil storage areas, minimizing the number of offshore tanker loading facilities, minimizing the miles of oil well connecting pipeline required, restricting onshore facilities to one relatively convenient location, minimizing the number of platforms required and minimizing both the number, routes, and distance to be traversed by tankers, work boats and drilling platforms. Containment and consolidation criteria are essential features to insure minimum impact and to develop experience in working in this area.

The Northeast Zone represents a large area with good prospects for sizable oil finds if oil and gas deposits exist in the Gulf. Research and coastal management activities should be much more developed before other regions of the NEGOA OCS are considered for additional lease sales.



°Operating Orders As recommended above, Operating Orders should be promulgated in final form prior to the lease sale concurrent with a commitment by Interior to allow an EPA review of environmental assessments or statements prepared in conjunction with the review of development plans.

°Exploration Plans

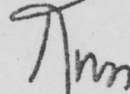
It is evident that the onshore environmental (as well as social and economic) effects of both exploratory and production activities are likely to be highly disruptive and could be disastrous unless carefully controlled within a properly planned framework. It is also evident that such plans and controls are not in place at present. The need for such improvements presents a strong argument in favor of a delay, but again if a sale must be held this year, a limitation in the geographic dispersion of tracts offered would assist the Alaska CZM and local planners by enhancing their capabilities to predict the location and extent of impacts on a particular area.

More importantly, the Secretary of the Interior should make maximum efforts to assist the State of Alaska in planning for and controlling onshore development. In particular, this would appear to be important to the Alaskan Native Village of Yakutat. It has been suggested that the Secretary should utilize his trust authorities and responsibilities to assist this community.

The Department should further facilitate Alaska State-local planning by including lease stipulations (or developing other appropriate regulatory means) requiring submission of detailed exploration plans. Such plans should be available for review by Federal, State and local agencies prior to Interior approval, and should cover phasing of exploratory operations, onshore facilities, offshore support needs and transportation needs.

EPA is available to discuss the position outlined above at any time. I am most grateful for the thorough review you and your staff have conducted and for the serious consideration you have given to our views. Together we have, I believe, shown how the Section 309 referral process can work to illuminate the environmental problems and alternatives in issues of unusual national and environmental significance, and I am most hopeful that this process will lead to a course of action that is best for all concerned.

Sincerely yours,



Russell E. Train
Administrator



Honorable Russell W. Peterson
Chairman
Council on Environmental Quality
722 Jackson Place, N.W.
Washington, D.C. 20006

OCS Leasing

Principal Objections to H.R. 6218

1. Lease cancellation. The bill requires cancellation of hazardous leases under criteria that are one-sided and has compensation provisions that are technically deficient. We feel cancellation should occur only after passage of time has clearly shown it to be necessary, and after full consideration of the advantages and dangers of continued production. Cancellation should be invoked only for hazards unanticipated at the time of lease issuance, and the lessee should be compensated for either the value of the lease at the time of cancellation, or his net expense on the lease, whichever is smaller.
2. Limit on bonus bidding. The bill limits use of the present bonus-bid system for lease sales to 90 percent of future acreage, and requires approval by both House and Senate to exceed the limit. We do not object to the 90 percent figure, provided it can be exceeded unless both Houses, by joint resolution, disapprove.
3. Information for States. The bill requires provision to adjacent States of privileged information developed by companies from geological and geophysical exploration. We feel that such information should be provided only if it will not unduly harm the competitive position of the companies involved.
4. Drainage of State lands. The bill requires joint Federal-State leases in the first three miles of Federal waters if the area contains oil or gas pools partly underlying State lands. We do not accept the joint-lease concept, which implies States' rights beyond the 3-mile limit and which gives States a potential veto over leasing of such lands. On the other hand, we are willing to provide arrangements for equitable division of revenues so that a State will not be financially injured by drainage.
5. Recommendations of Governors or Advisory Boards. The bill requires acceptance of leasing recommendations of Governors or Advisory Boards, unless we find them inconsistent with national security or overriding national interest. We feel that in the case of a nationally-owned resource not lying within the boundaries of any State, there should be no presumption of such acceptance, though we seek and encourage States' recommendations.
6. Environmental studies. The bill shifts Interior's extensive program of OCS environmental studies to Commerce. We are agreed that the primary purpose of the studies is to furnish information for Interior's leasing decisions, and that control should remain in Interior's hands.
7. Changes in safety regulations. The bill provides that no change in regulations may reduce the degree of safety on the OCS. We object to this restriction because it prevents balancing the advantages and disadvantages of new regulations, and because it could be a source of delaying litigation.



8. Authority to regulate. The bill strikes from present law the key sentence which, since 1955, has been the basis of regulations and court decisions defining Interior's regulatory authority. The sentence is not inconsistent with other parts of the bill, and we feel it should be retained.

9. Consistency with State coastal zone programs. The bill requires that leasing be consistent with State coastal zone programs, but drops the qualifying phrase which is present in the Coastal Zone Act itself, "to the maximum extent practicable." We feel the phrase should be retained, so that the standard of consistency is no higher for OCS leasing than for other Federal programs.

10. Best technology. The bill requires use of "the best available and safest technology, economically achievable." We oppose enactment of this phrase unless report language makes it clear that the costs and the advantages of new technologies can be balanced against each other, and the bill is amended to make clear that "economic achievability" is to be determined by Interior, not the courts.

11. Safety regulation. The bill makes multiple assignments of agency authority for safety regulations; sometimes as many as three agencies are directed to do the same thing, to no clear purpose or effect. We favor retention of the regulatory responsibilities in present law.

12. Marking of obstructions. The bill makes mandatory the Coast Guard's present discretionary authority to mark obstructions on the OCS for navigational purposes. We feel that discretion should be retained, because marking is not always helpful or necessary, and because the Coast Guard's liability in case of accident might otherwise be unacceptably expanded.

13. Impact aid. The impact aid provisions are identical to those in the House Coastal Zone bill now in conference. We object to them as being inconsistent with the Administration bill on this subject.

14. State authority. The bill forbids development plans to be inconsistent with "any valid exercise" of State or local authority. This is language taken from the Senate bill, which requires development plans to contain information about onshore facilities, but it is inappropriate in the House bill, which restricts the plans to facilities in Federal waters.

15. Requirement of due diligence. The bill bars issuance or extension of a lease if the applicant has not diligently performed his obligations on other leases. The provision is unnecessary, since due diligence on each lease is required elsewhere in the bill; it is unworkable, since it could lead to cancellation of a lease held jointly by several parties because of the lack of diligence of one of them on another lease.

16. Citizens' suits. The bill broadens the standing of citizens to sue under the Act well beyond provisions of other recent environmental laws. This raises the likelihood of nuisance suits.



17. Stratigraphic drilling. The bill requires offer of permits to drill in each frontier area at least one pre-lease-sale test hole, in a location most likely to contain oil or gas. Present policy is to keep these tests "off structure" so that no discovery of oil or gas will result, in order to gather useful geologic information but avoid pressure for further government exploration before leasing. Present policy should be retained.

NOTE:

Other objections to H.R.6218 are listed in the attachment.



Other Objections to H.R. 6218

1. Retroactivity. The bill applies new development plan requirements designed primarily for frontier areas to all leases on which production has not taken place, including hundreds of leases in developed areas of the Gulf of Mexico. The requirements should be applied to frontier areas only.
2. Deadline for preparation of 5-year plan. The bill prohibits leasing after June 30, 1977, unless a required 5-year plan has been prepared and approved. Eighteen months after passage of the bill should be allowed.
3. Principles for preparation of 5-year plan. The bill lays down requirements for preparing the 5-year schedule which are overly strict and could become sources of delaying litigation. Qualifying language should be added.
4. Reports of safety violations. The bill requires excessively detailed reporting of safety violations. Unnecessary expense would be avoided by redrafting these provisions.
5. Frequency of inspection. Unnecessarily frequent inspections are called for in the bill. Once-yearly regular inspections of platforms, plus a program of unannounced visits, would be adequate.
6. Regulations required. The bill requires issuance of regulations concerning duties of the Secretary himself, such as preparing annual reports and the 5-year program. Such a requirement would generate useless paperwork, and should be stricken.
7. Attorney General and FTC review. The bill requires Interior to provide Justice and FTC with information for their review concerning antitrust implications lease issuance or extension. The information requirement is too broad, and could become burdensome and a source of delay.
8. Regulations for subsurface storage. The bill requires Interior to issue regulations for all subsurface storage on the OCS, a requirement that is in conflict with the Energy Policy and Conservation Act, which assigns responsibility in the case of government facilities to the FEA.
9. Limitations on export. The bill adds requirements for Presidential findings and Congressional review to the normal procedures of the Export Administration Act. These are undesirable restrictions on executive powers.



10. Extending the term of a lease. Under certain conditions, the bill permits extension of the primary term of a lease to ten years from the normal five. To avoid undesirable pressure for extensions, this provision should be limited to leases containing such permission in their original language.

11. Development plan approval if environmental studies are incomplete. The bill says that an incomplete environmental study shall not "in itself" be grounds for refusing to approve a development plan. This question should be left to Interior's discretion, since in some cases the study may be important enough to be worth waiting for.

12. Compensation for leases cancelled because of safety violations or inability to comply with law. The bill fails to make clear that cancellation for these reasons would not entitle the lessee to compensation.

13. Revision of development plans. The bill restricts too narrowly the grounds for revision of development plans. If the requested revision is not contrary to the public interest, the mere convenience of the lessee should be sufficient.

14. Reimbursement for data costs. The bill provides for reimbursement of lessees but not permittees for reproduction costs of data acquired from them by Interior. The provisions should be the same for both.

15. Price per lease-share under "Phillips plan." The bill provides that all bidders for 1 percent lease shares under the Phillips plan system would pay the same price, regardless of their bids. This requirement unnecessarily handicaps an otherwise promising experimental bidding system.

16. Required environmental impact statement at development stage. The bill requires at least one EIS on development in each frontier area, but it is ambiguously worded, and could be interpreted to require one on each geologic structure, which would be unworkably burdensome.

17. Definition of "affected State." The definition now in the bill makes it possible for a State to be defined as "affected" by an oil spill from any vessel, not just one carrying OCS oil. This is inconsistent with the logic of the oil spill liability provisions elsewhere in the bill.

18. Proper term for OCS "structures." In referring to OCS "structures" such as wells and platforms, the bill fails to use language which is fully consistent with the 1958 Convention on the Continental Shelf.

