UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

Reply To
Attn Of: ORC-158

MEMORANDUM – Privileged and Confidential

SUBJECT: Criminal Fines Analysis, BP Exploration (Alaska), Inc.

FROM: Dean Ingemansen, Regional Criminal Enforcement Counsel, EPA Region 10

TO: Aunnie Steward, Trial Attorney, U.S. Attorney's Office, District of Alaska

This memorandum examines the range of possible criminal fines that could be levied against British Petroleum Exploration (Alaska), Incorporated ("BPXA") pursuant to the Alternative Fines Act, 18 U.S.C. § 3571(d), for the March 2006 seven day release of oil from the OT-21 transit line in the Western Operating Area (WOA) of the Greater Prudhoe Bay (GPB) business unit and for the August 2006 one day release of oil from a transit line in the Eastern Operating Area (EOA) of the GPB Unit. In preparation of this memo, I looked at relevant case law, sentencing decisions, and guidance documents both within EPA and in the DOJ Environmental Crimes Manual.

A. Statutory Provisions

The relevant statutory provisions for criminal fines are 18 U.S.C. §§ 3571(c) and (d). Those provisions read as follows:

"**(c) Fines for organizations.** – Except as provided in subsection (e) of this section, an organization that has been found guilty of an offense may be fined not more than the greatest of–

(1) the amount specified in the law setting forth the offense;

(2) the applicable amount under subsection (d) of this section;

(3) for a felony, not more than $500,000;

(4) for a misdemeanor resulting in death, not more than $500,000;

(5) for a Class A misdemeanor that does not result in death, not more than $200,000;

(6) for a Class B or C misdemeanor that does not result in death, not more than $10,000;

and

(7) for an infraction, not more than $10,000."

"(d) Alternative fine based on gain or loss.– If any person derives pecuniary gain from the offense, or if the offense results in pecuniary loss to a person other than the defendant, the defendant may be fined not more than the greater of twice the gross gain or twice the gross loss, unless imposition of a fine under this subsection would unduly complicate or prolong the sentencing process."

Subsection (e) of this section states that "if the law setting forth the offense specifies no fine or a fine that is lower than the fine otherwise applicable under this section and such law, by specific reference, exempts the offense from the applicability of the fine otherwise applicable under this section, the defendant may not be fined more than the amount specified in the law setting forth the offense."

The other relevant statutory provisions are 18 U.S.C. §§ 3553 and 3572. Section 3553 lists factors to be considered when a court imposes a sentence. These factors include:

1) the nature and circumstances of the offense and the history and characteristics of the defendant;
2) the need for the sentence imposed–
    (A) to reflect the seriousness of the offense, to promote respect for the law, and to provide just punishment for the offense;
    (B) to afford adequate deterrence to criminal conduct;
    (C) to protect the public from further crimes of the defendant; and
    (D) to provide the defendant with needed educational or vocational training;
3) the kinds of sentences available;
4) the kinds of sentence and sentencing range established for the applicable category of offense committed and any guidelines or policy statements issued by the Sentencing Commission pursuant to Title 28 of the U.S.Code;
5) any pertinent policy statements issued by the Sentencing Commission;
6) the need to avoid unwarranted sentence disparities among defendants with similar records who have been found guilty of similar conduct; and
7) the need to provide restitution to any victims of the offense.

Section 3572 lists factors for the court to consider when imposing a sentence of a fine. Those factors include the following:

1) the defendant's income, earning capacity, and financial resources;
2) the burden the fine will impose upon the defendant;
3) any pecuniary loss inflicted upon others as a result of the offense;
4) whether restitution is ordered or made and the amount of such restitution;
5) the need to deprive the defendant of illegally obtained gains from the offense;
6) the expected costs to the government of any imprisonment, supervised release, or probation component of the sentence;

7) whether the defendant can pass on to consumers or other persons the expense of the fine; and
8) if the defendant is an organization, the size of the organization and any measure taken

by the organization to discipline any officer, director, employee, or agent of the organization responsible for the offense and to prevent a recurrence of such an offense.

B. United States Sentencing Guidelines

Chapter 8 of the "Federal Sentencing Guidelines Manual" contains guidelines which apply to most crimes committed by organizations such as corporations, partnerships and municipalities. They are not broken down by type of crime because Chapter 8 incorporates the Part 2 individual guidelines in calculating fine amounts. The Chapter 8 guidelines incorporate the Sentencing Reform Act's inclusion of restitution as a direct sanction as well as community service and wide-ranging terms of probation. U.S.S.G., Parts 8B and 8D.

When the Sentencing Commission adopted Chapter 8, it exempted environmental offenses from certain Chapter 8 provisions. Provisions regarding fine calculation contained in Section 8C2.2-.9 do not apply to environmental offenses. Rather, Section 8C2.10 applies, and it states that "the court should determine an appropriate fine by applying the provisions of 18 U.S.C. §§ 3553 and 3572." However, the rest of Chapter 8 concerning remedying harm, restitution, remedial orders, community service; payment of fines or reduction of fines based on inability to pay, and implementing organizational probation apply to these offenses. See § 8A1.1, App. Note 2.

C. Relevant Case Law [1]

Fines

Environmental statutes provide for imprisonment, a fine, or both as punishment. Some environmental statutes authorize fines on a per day of violation basis. See 33 U.S.C. § 1319(c); 42 U.S.C. § 6928(d). Other environmental statutes provide that Title 18 controls. 42 U.S.C. § 7413(c)(1). Title 18 provides various ways of calculating statutory maximums - the amount specified in the statute of conviction, $250,000 per count for felonies by individuals ($100,000 for misdemeanors, and $500,000 per count for felonies and $200,000 for misdemeanors by corporations), or twice the gain or loss. 18 U.S.C. § 3571. By law, the statutory maximum is the greatest of these three amounts. Id. Some statutes provide for a minimum fine if a fine is imposed. For example, if a fine is imposed in a Clean Water Act felony case, the fine is supposed to be at least $5,000 per day of violation. 33 U.S.C. § 1319(c). U.S. v. Chemetco Co., 274 F.3d 1154 (7th Cir. 2001).

1. Individuals

Section 5E1.2(a) of the Sentencing Guidelines states that courts "shall" impose fines except where an individual defendant establishes current and future inability to pay. Many individual defendants fall into this category by the time of sentencing. Section 5E1.2(c) establishes minimum and maximum ranges based on the final offense level calculated for the crime which the court is supposed to use in setting a fine. However, this table does not apply in limiting the maximum fine when the statute of conviction authorizes a maximum fine greater than $250,000 or imposes fines for each day of violation such as the CWA or RCRA. § 5E1.2(c)(4). Thus, the maximum fine range becomes the statutory maximum.

The CWA's minimum fine requirement if one is imposed may also affect the bottom end

1The discussion in this section was taken in its entirety from the 2003 "Sentencing in Environmental Cases" outline prepared by Martin Harrell, Region 3 Associate Regional Counsel for Criminal Enforcement.

of the fine table range if the offense level produces a minimum fine table amount which is less than the statutory minimum. In such cases, the minimum should be the statutory minimum. In cases of multi-day violations, this approach can establish a statutory minimum which far exceeds a defendant's ability to pay or what the parties may have been able to negotiate. In U.S. v. Technic Services, Inc., 314 F.3d 1031 (9th Cir. 2002), the defendants challenged imposition of a $520,000 fine, arguing that the court had not made factual findings concerning the number of days of violation. The Ninth Circuit disagreed, finding that the jury had convicted them on a count which charged that they had violated the CWA from on or about Jan. 3, 1996, through April 15, 1996, a total of 104 days. Thus, given the CWA's minimum fine of $5,000 per day of violation, the fine amount was appropriate.

The interaction of the CWA statutory minimum and maximums, the alternative fines provision contained in 18 U.S.C. Section 3571 and the fine table can be confusing. In U.S. v. Hong, 242 F.3d 528 (4th Cir. 2001), a magistrate convicted the defendant on 13 CWA misdemeanor counts, and imposed a $1.3 million fine - 13 times $100,000, the maximum amount set using 18 U.S.C. Section 3571. On appeal, the district court reduced the fine to $400,000, saying that the defendant could not be fined more than $25,000 per count for a violation which occurred on a single day. He accepted the defendant's argument that the phrase "the court may impose a fine up to the maximum authorized by the statute" contained in U.S.S.G. Section 5E1.2(c)(4) referred only to the CWA and precluded application of 18 U.S.C. Section 3571. The Fourth Circuit reinstated the original $1.3 million fine, finding that the commentary to that guideline made clear that 18 U.S.C. Section 3571 could be used to establish the statutory maximum.

A relatively new issue is whether, for statutes which base punishment on days of violation, the United States must affirmatively state the specific days of violation in the indictment or information pursuant to the Supreme Court's decision in Apprendi v. New Jersey, 530 U.S. 466 (2000) ("Other than the fact of a prior conviction, any fact that increases the penalty for a crime beyond the prescribed statutory maximum must be submitted to a jury, and proved beyond a reasonable doubt."). In U.S. v. Chemetco Co., 274 F.3d 1154 (7th Cir. 2001), the company had pled guilty and/or nolo contendere to CWA offenses prior to Apprendi. The parties stipulated to facts and the company acknowledged discharging pollutants via a secret pipe during at least part of the period between September, 1986, and September, 1996.

After Apprendi, the company argued to the district court that it had to be charged in the indictment for each day of violation and that the government had to prove each beyond a reasonable doubt. The district court rejected the argument, found 676 days of violation and imposed a fine of $3,327,500. The Seventh Circuit affirmed, finding that Congress intended that the number of days of violation be treated as a sentencing factor provable via a preponderance of the evidence standard. The Court further noted that while the Government could charge each day of violation separately, it was not required to do so. Unfortunately, the Seventh Circuit then went on to expressly cast doubt on whether Congress intended prosecutors to charge each count separately, stating that to do so in that case would have produced a maximum jail term of 2,028 years for an individual defendant. It ultimately rejected Chemetco's argument that the district court had impermissibly increased the company's statutory maximum, finding that the fine imposed was still less than the maximum penalty permitted had the court accepted the company's willingness to acknowledge a mere 71 days of violation!

Section 5E1.2(d) sets forth several factors for the court to consider in determining the amount of the fine for an individual defendant, including seriousness of the offense, harm or loss to the victim and gain to the defendant. The fine should be sufficient, taking into account other

sanctions, to be punitive. § 5E1.2(e). Fines should generally be sufficient to recoup all economic benefit or gain obtained by the defendant, such as avoiding costs of disposal or installation of pollution control technology.

2. Corporations

The maximum statutory fine in organizational environmental cases may be based on the greater of the following: the statute of conviction, which may provide a fine per day of violation; 18 U.S.C. § 3571(c), which provides a maximum fine of $500,000 for felonies or $200,000 for misdemeanors; or 18 U.S.C. § 3571(d), which authorizes fines set at twice the pecuniary gain or loss. See U.S. v. Chemetco Co., 274 F.3d 1154 (7th Cir. 2001) and discussion above.

There is not a great deal of case law on sentencing of organizational defendants in environmental cases. In U.S. v. Eureka Laboratories, Inc., 103 F.3d 908 (9th Cir. 1996), the district court had fined the defendant $1.5 million and ordered it to pay restitution of $322,422 for falsifying analytical data generated for federal agencies, including EPA. On appeal, the company claimed that while the $1.5 million fine represented a significant downward departure by the district court from the guideline fine range, it should have gone further based on the company's financial condition. It also argued that Section 8C3.3 of the guidelines prohibited imposition of a fine which jeopardized a company's ability to continue in business. The Ninth Circuit ruled that it lacked authority to review the amount of the downward departure concerning the fine. It further held that while Section 8C3.3(a) of the guidelines requires reduction of a fine to prevent interference with payment of restitution, Section 8C3.3(b) does not require courts to reduce fines to avoid jeopardizing the future of the business. The Ninth Circuit found that such departures are not mandatory, even if the district court's fine would bankrupt the company, as long as the fine would not interfere with payment of restitution. The Ninth Circuit went on to find that the district court had adequately considered the factors set forth in 18 U.S.C. Section 3572 concerning imposition of a fine. The fact that Eureka's employees might be adversely affected by payment of the fine or cessation of the business could not "allow a corporation that has engaged in illegal activity to escape paying a fine." See also U.S. v. West Indies Transport, Inc., 127 F.3d 299 (3d Cir. 1997)(imposition of $500,000 fine not excessive).

Two issues which arise with some frequency concerning fines in organizational sentencing concern how much is the case worth and a defendant's claimed inability to pay.

On the first issue, EPA has had a fair amount of experience calculating appropriate penalties in civil and administrative cases, taking into account severity of harm and avoided or delayed compliance costs. You may ask EPA to do a civil penalty calculation using the relevant Agency penalty policy formula. The EPA attorney assigned to the criminal case would be the best starting point for this task. Two caveats: application of any Agency penalty policy requires exercise of a great deal of subjective judgment because of the nature of the factors involved so reasonable people could disagree on the result and use of such a figure in a criminal case should include a premium since it is a criminal rather than a civil matter. Some also use the Chapter 8 fine-setting system, which also requires a number of individual judgments, to get a rough idea of a case's worth. A caveat: the government opposed adoption of that system for environmental prosecutions out of a belief that it produces a low fine amount, especially when you are dealing with larger companies, since organizational size really is not a factor.

With regard to inability to pay, EPA is often confronted with similar claims in civil and administrative litigation. There are EPA employees who can review defendants' income tax returns, financial statements and other documents to verify or rebut inability to pay claims.

However, this process takes some time so you cannot wait until two days prior to sentencing and ask for this assistance. This issue obviously may also arise in individual sentencing.

D. Possible Civil Penalties

The "Civil Monetary Penalty Inflation Adjustment Rule" was promulgated on February 13, 2004, and applies to all violations occurring after March 15, 2004. 69 Fed. Reg. 7121 (2/13/04). It raised the maximum civil penalties under the CWA from $25,000 per day to $32,500 per day, and under OPA it raised the "per barrel" penalties from $1,000 to $1,100 per barrel and from $3,000 to $4,300 per barrel (for gross negligence).

It is estimated that at least 5,000 barrels of oil were released during the March 2006 spill in the WOA. Therefore, the following civil penalty calculations would apply.

Under OPA, if BP is found to have been grossly negligent, then the penalty is $4,300 per barrel multiplied by 5,000 barrels which equals $21,500,000. If BP is found to have only been negligent, then the penalty is $1,100 per barrel x 5,000 barrels = $5,500,000. A separate penalty under OPA can be calculated as a result of the one day August 2006 spill as well (I don't know the estimated size of that spill).

Under CWA Section 309(d), the civil penalty is $32,500 per day per violation. Oil leaked on the ground for at least one week from OT-21 transit line. Therefore, the civil penalty would be $32,500 x 7 days = $227,500. The CWA penalty for the one day spill from the EOA in August 2006 would be $32,500.

E. Possible Criminal Fines

To begin with, no matter which methodology one chooses to use, we should keep in mind that BPXA generates a lot of cash as a result of its operations on the North Slope. In order to provide for the necessary deterrent effect for such a large, profitable corporation, and given the fact that BPXA's criminal fine from the Federal Government's Endicott criminal case in 1999 apparently did not deter BPXA from its cost-cutting efforts at the expense of safety and infrastructure maintenance, any criminal fine in this case ought to take into account BPXA's daily profits from the North Slope.

BP's ownership interest of the Greater Prudhoe Bay Unit production is 26.4 % (according to the BP America website). Thus, if you conservatively calculate one day's gross profits from the Greater Prudhoe Bay Unit only, the resulting figure is **$8,448,000.00**, as calculated below:

> 400,000 barrels per day oil production from all of Greater Prudhoe Bay x $80.00 average price per barrel of oil as of September 21, 2007 = $24,000,000 x 26.4% (0.264) = $8,448,000.00 before taxes. In 2006, BP, PLC's nominal tax rate worldwide was 35.6 %. **Therefore, BPXA's Greater Prudhoe Bay profit after taxes (using the worldwide tax rate) was $5,440,512.00.**

Thus, in order to achieve some sort of deterrent effect, any criminal fine levied against BPXA would have to be measured against the $5,440,512.00 profit figure. In addition, BPXA also realizes profits from its other fields on the North Slope (e.g., Endicott, Kuparuk, Northstar), and therefore the deterrent effect of any criminal fine ought to take BPXA's daily profits from all of its North Slope operations into account, not just the Greater Prudhoe Bay Unit.

1. *CWA Statutory Criminal Fines*

Under Section 309 (c)(1) of the CWA, for a first criminal conviction, the fine shall not be less than $2,500 and not more than $25,000 per day per violation for negligent violations. If the defendant has more than one prior CWA criminal conviction, then the fine shall not be more than $50,000 per day per negligent violation.

Using this language, the release of oil from the OT-21 line in March 2006 lasted for seven days, which could result in a fine of $175,000 ($25,000 per day x 7 days). The August 2006 spill from the Eastern Operating Area was a single day occurrence, and so the fine associated with that spill would be $25,000.

If there is a knowing violation of Section 309 (c)(2), then the fine shall not be less than $5,000 and not more than $50,000 per day per violation (if it's the first criminal conviction). If there is a second CWA conviction, then the fine shall not be more than $100,000 per day per violation.

If we can show BP committed a knowing violation of the CWA, then the fine could be $350,000 for the seven days of release of oil from the OT-21 line ($50,000 x 7 days). The August 2006 spill from the Eastern Operating Area was a single day occurrence, and as such the fine would be $50,000 for that spill.

Finally, under Section 309(c)(4) of the CWA, any person making a false statement in violation shall be fined not more than $10,000 or 2 years, or both, per violation. If the violation is a second conviction, then the fine shall be not more than $20,000 per day per violation or 4 years, or both.

2. *Alternative Fines Act* (all calculations under this section are doubled due to "twice the pecuniary gain or loss" language contained in the statute. Given the language of the statute, we will likely have to choose between "gains" realized by BP or "losses" to third parties when selecting a criminal fine amount)

a. Avoided Costs of Pigging the Transit Lines in GPB/One-Time Initial Pigging Infrastructure Costs (loss to the other Working Interest Owners at Greater Prudhoe Bay)

According to BP, it last pigged the transit lines in the WOA in 1998, and the transit lines in the EOA were pigged in 1990 or earlier. According to documents received from Conoco/Phillips, it pigs its transit lines at least once every three years. According to documents received from Aleyska, it runs cleaning pigs on the Trans-Alaska Pipeline (TAPS) once every two weeks, and smart pigs the line once every 3 years. Thus, given the fact that BP knew it had an increasing frequency of process "upsets" at the Gathering Centers in the WOA (due to the increased production of "viscous" oil containing increased amounts of water and sediment) in the 2000 to 2005 time frame, and given the fact that Conoco/Phillips pigs its lines every 3 years, it is reasonable to have expected BP should have used "best practices" and pigged the transit lines at least once every 3 years. As such, at the very least, the WOA transit lines should have been pigged in 2001 and 2004, and the EOA transit lines should have been pigged in 1999 or 2000 (when BP took over the EOA as a result of its merger/takeover of ARCO), and then again in 2002 or 2003.

According to a DOT internal document, it is estimated that BP will spend at least $3.9

million to pig the transit lines in the Eastern Operating Area of Greater Prudhoe Bay, and at least $5.28 million to pig the Western Operating Area transit lines, for a total of $ 9.18 million for a one-time pigging event in Greater Prudhoe Bay. The costs associated with this figure include one-time costs of installing pig launchers and receivers in GPB. Any subsequent pigging costs after installation of those facilities would obviously be less (approximately $100,000 to $200,000 for each pigging event). Under the Alternative Fines Act, the government can only seek twice the gross gain the defendant obtained, or twice the gross loss the defendant caused to a third party. Here, the GPB oil field is owned by BP, Exxon, and Conoco-Phillips, and some other smaller owners (collectively, the "Working Interest Owners" or "WIOs"). Thus, the "loss" to third parties such as Exxon and C-P and the other WIOs can be captured under the Alternative Fines Act by backing out BP's capital cost share of the $9.18 million. BP's ownership share of GPB is 26.4%; therefore, the "losses" realized by Exxon and C-P are: $9,180,000 - ($9,180,000 x .264) = 6,756,480.00. Doubling that one-time cost number as specified in the Alternative Fines Act would result in a criminal fine of **$13,512,960.00**, not including interest.

According to a January 31, 2002 letter from Jeff Conrad, one of BP's staff lawyers, to the Alaska Attorney General's Office, Conrad estimated that the costs of pigging the lines in the EOA was $20 million and the costs of pigging the WOA was $12.5 million, for a total of $32.5 million. BP's cost share is 26.4%, so the "loss" to the other Working Interest Owners in GPB is as follows: $32,500,000 - ($32,500,000 x .264) = $23,920,000. Doubling that number as specified in the Alternative Fines Act would result in a criminal fine of **$47,840,000.00**, not including interest. **More research is needed to determine which cost estimate is more accurate.**

b. **Realized Profits from not Pigging (gain to BPXA)**

Analysis of this issue indicates that BPXA estimated that it loses 3 to 5 days of production every time it runs a smart pig through a large diameter flowline or transit line. Some of this lost time is due to the time it takes to run a cleaning pig through the line and dealing with the sludge, and some lost time is due to pigs getting stuck (which apparently happens quite a bit). The source of this lost time information is a chain of emails from 2003 (BPXA 00441644).

Therefore, we can calculate the lost oil production for each smart pig run for the Greater Prudhoe Bay unit as a whole (using oil production figures for the whole unit), or we can calculate the lost oil production from just the OT-21 transit line in the WOA. BP last ran a smart pig in the WOA in 1998. They likely should have run smart pigs in 2001 and 2004. Thus, there are two calculations for each year.

The average price of oil in 2001 was $23.39 per barrel. The average price of oil in 2004 was $54.93 per barrel.

OT-21 profit by not smart pigging:

The average amount of oil production out of the OT-21 line just before the March 2006 release was 95,000 bbls/day. BP's "net share" of that production was 25,080 bbls/day (BP's net share of GPB oil production is 26.4 % - source: bp.com, "BP in Alaska- Facts and Figures." If BP's "net share" of oil production has already factored in taxes, then the numbers calculated below would be larger). Therefore, the calculations are as follows:

For 2001: $23.39/bbl x 25,080 bbl/day x 3 days lost production due to smart pigs = $1,759,863.60

For 2004: $54.93/bbl x 25,080 bbl/day x 3 days = $4,132,933.20

Total gross profits gained by BP by not pigging OT-21 in 2001 and 2004 = $5,892,796.80.

BPXA's net tax rate for 2006 = 30.59% (source: bp.com, "2002-2006 BP Financial and Operations Information")

Therefore, the total net profits (after tax) gained by BP by not smart pigging OT-21 = $4,090,189.00

GPB Profit by not smart pigging:

From the BP website ("BP in Alaska- Facts & Figures"), BP lists its 2004 production figures from all of their Prudhoe Bay business units. BP's "net share" of production from those units is as follows:

GPB = 109,000 bbl/day
Midnite Sun = 1,000
Aurora = 3,000
Orion = 600
Polaris = 400
Borealis = 7,000

Total GPB net share of production for BPXA = 121,000 bbls/day

Running similar calculations as above (assuming 3 days of lost production in 2001 and 2004) gives the following results:

2001: $23.39/bbl x 121,000 bbls/day x 3 days = $8,490,570.00

2004: $54.93/bbl x 121,00 bbls/day x 3 days = $19,939,590.00

Total BP gross profits:	$28,430,160.00
2006 BPXA tax rate	x 0.3059 -(8,696,785.00)
Total BP after-tax profit by not smart pigging GPB	**$ 19,733,375.00**

c. **Economic Benefit Realized by BPXA by delayed installation of pigging facilities**

Using BP's own rough estimate of the cost to install pigging facilities (as reported to PHMSA), $9,130,000.00, one can insert BP's 26.4% share of that figure ($2,410,320.00) into EPA's BEN model to calculate the economic benefit of delayed compliance. The BEN model inputs I used were based on the following assumptions:

1. The date of the $9.13 million cost estimate for pigging infrastructure was assumed to be April 1, 2006. BP's share of that cost estimate is $2,410,320.00;

2. The date BP "came into compliance" (i.e., the date BP finally installed the pigging equipment and pigged the lines) was assumed to be June 1, 2006;

3. The "penalty payment date" (i.e., the date BP actually spent the $2,410,320) was assumed to be June 1, 2006; and

4. The "date of non-compliance" (i.e., the date BP should have made GPB piggable and actually pigged it) was assumed to be January 1, 1998.

In addition, the BEN model uses a "weighted cost of capital" discount rate of 9.5% as a default value. However, in reviewing BP's 2006 financial data (source- bp.com), they calculated a discount rate of 9 % and 10 % in 2004 and 2005, respectively, so the 9.5% default value in the BEN model is fairly accurate as applied to BPXA.

Using these inputs, the BEN model calculates the economic benefit of delaying the installation of BP's "share" of the pigging equipment to be $1,808,034.00.

d. **Spill Cleanup Cost Estimate** (loss to the other WIOs)

BP's "share" of this cleanup cost cannot be recovered under the Alternative Fines Act. However, under the PBU Operating Agreement, the other Working Interest Owners will have to pay their share of this cleanup cost, and their "shares" are a third-party loss that can be recovered under the AFA. I have spoken with EPA's On-Scene Coordinators in Alaska (Matt Carr and Carl Lautenberger), and neither of them have cost documentation as this was a responsible party-lead cleanup. However, Carl remembers a similarly-sized oil spill recently happened on the Aleyska Pipeline at milepost 400, and that spill cleanup cost was over $24,000,000. We would have to ask BP for documentation on how much they spent on the cleanup. Whatever that cost figure is, you would back out BP's 26.4% share, and the remainder would be the "loss" that the other WIO's had to incur to pay for the release of oil as a result of BP's negligence in maintaining the oil transit lines. You would then double that WIO share number under the AFA to get a fine amount.

e. **BP's worldwide after-tax profits due to 3 day oil price spike in Aug. 2006 due to GPB production shutdown** (gain to BP)

On August 6, 2006, BPXA ordered a complete shutdown of the GPB field due to BPXA's finding of additional "severe corrosion and a small spill" from an oil transit line in the EOA of the GPB field. As a result of this announcement, worldwide crude oil prices jumped up by $2.27 per barrel, to $77.05, on Monday, August 7th when compared to the previous Friday's closing price of $74.78 per barrel. The price remained high on Tuesday, August 8th (a $1.51 per barrel increase), and Wednesday, August 9th ($1.50 per barrel). On Thursday, August 9th, prices returned to a "pre-shutdown announcement" level.

Using these per barrel price increases, we can calculate the "gain" BP realized as a result of this announcement of finding additional widespread corrosion, after backing out the lost Prudhoe Bay production that BP "made up for" by buying additional crude on the open market.

In 2006, BP produced 2,475,000 barrels of crude DAILY from its subsidiaries and other related entities (source: BP's 2006 Annual Report). However, it lost 400,000 of production when it temporarily shut down Prudhoe Bay production. Thus, for our purposes, the average daily production for August 7th, 8th, and 9th was 2,075,000 bbls/day. The amount BP gained worldwide as a result of this price spike is as follows:

Aug. 7th: 2,075,000 barrels x $2.27 per barrel incremental cost = $ 4,710,250
Aug. 8th: 2,075,000 barrels x $1.51 = $ 3,133,250
Aug. 9th: 2,075,000 barrels x $1.50 = $ 3,112,500
==
Subtotal $10,956,000

Multiply that figure by 30.61% (BP's average international tax rate for 2006- source: BP's 2006 SEC 6K filing), and you get $3,354,022. Subtract that number from the subtotal above and you end up with **$ 7,601,978.00, which is the total after-tax profit realized by BP worldwide due to the 3 day crude oil price spike BP caused as a result of its negligent maintenance of the transit lines throughout the GPB unit. Multiply that figure by 2 under the AFA and you get $15,203,956.00.**

f. **Cost of Replacement of Transit Lines** (loss to the other WIOs)

The following is a quote from Bob Malone's September 12, 2006 testimony to Congress:

> "Replace 16 miles of WOA / EOA oil transit lines with smaller diameter lines to increase their flow velocity and help prevent this problem in the future. The estimated cost of this is in excess of $150 million."

Had BP maintained these lines properly, it and the other Working Interest Owners would not have had to incur the costs of installing this new pipe. The "loss" incurred by the other WIO's is calculated as follows: BP's share of costs (26.4%) x $150,000,000 = 39,600,000. $150 million - $39.6 million = $110,400,000. **Thus, the other WIO's at GPB have lost at least $110,400,000 due to BP's negligence in failing to properly control corrosion and otherwise properly maintain the transit lines. Doubling that figure under the AFA results in a $220,800,000 fine amount.**

ATTORNEY WORK PRODUCT
PREPARED IN ANTICIPATION OF LITIGATION
DO NOT RELEASE

BPXA FINE CALCULATIONS

October 2, 2007

Option #1:

After-tax profits by not smart pigging OT-21 in 2001 and 2004 =	$4,090,189.00
BP cost estimates for pig facility install in GPB =	$9,130,000.00
Economic Benefit of not installing pigging facilities in 1998 =	$3,207,303.00
Cost estimate for cleanup of 2006 oil releases (EPA guesstimate)=	$2,000,000.00
BP's worldwide after-tax profits due to 3 day oil price spike in Aug. 2006 due to GPB production shutdown =	$12,816,058.00
Sub-total:	$29,243,550.00

x 2 under Alternative Fines Act

Total fine amount for Option #1: $58,487,100.00

Option #2:

After-tax profits for not smart pigging all of GPB in 2001 and 2004 =	$19,733,375.00
BP cost estimates for pig facility install in GPB =	$9,130,000.00
Economic Benefit of not installing pigging facilities in 1998 =	$3,207,303.00
Cost estimate for cleanup of 2006 oil releases (EPA guesstimate)=	$2,000,000.00
BP's worldwide after-tax profits due to 3 day oil price spike in Aug. 2006 due to GPB production shutdown =	$12,816,058.00
Subtotal:	$44,886,736.00

x 2 under Alternative Fines Act

Total fine amount under Option #2: $89,773,472.00