Johnson, Dustin (PUC)

Subject: FW: 5/27/07 News Story - Crude Oil Leak

----- Original Message -----
From: Curt Hohn <chohn@webwater.org>
To: Johnson, Dustin (PUC); Hanson, Gary (PUC); Kolbeck, Steve
Cc: Curt Hohn <chohn@webwater.org>
Sent: Sat May 26 13:37:32 2007
Subject: 5/27/07 News Story - Crude Oil Leak

TO: SD PUC Commissioners

TransCanada claims that computerized SCADA control systems will detect a crude oil leak on their 30" high pressure pipeline and shut the system down. This news from the Chicago Tribune says otherwise. Below is a key clip from the story….

Discovery of the leak

On March 2, 2003, a worker driving along the pipeline on the western part of the Prudhoe Bay field smelled oil. Co-workers rushed to the site and quickly discovered the 200,000-gallon spill. BP's automatic detection system had missed the slow-flowing leak, which had appeared an estimated five days earlier.

The 1989 peak coincided with two other important events. Oil prices were plummeting by almost two-thirds from their $66 peak in 1981. At the same time, BP was tapping into new oil sources that delivered viscous, highly corrosive crude. From that point forward, oil flowing through BP's eastern operating area would be increasingly thick and slow flowing, and thicker oil is far more corrosive, thanks in part to sand that settles in the bottom of pipes and deflects anti-corrosion chemicals away from the metal they are intended to protect.

A 25 percent budget cut instituted in 1999, after the Amoco merger, meant that one crucial corrosion-fighting method—sending cylindrical probes called "pigs" through the pipes to both clean and inspect them—was abandoned virtually altogether, company records show. The BP e-mails also show that at one point, the top corrosion-fighting executive, Richard Woollam, also stopped buying corrosion-fighting chemicals, again in an effort to meet budget targets.

The full story is printed below. It's difficult to believe the assurances TransCanada is providing about the Keystone Pipeline when you read stories like this. It would seem that any permit the SD PUC considers approving should include some strong conditions that protect SD landowners, the environment, and public safety.

Curt Hohn

KEEPING THE OIL TRIBUNE SPECIAL REPORT FLOWING

Risky business: Big Oil's billion-dollar juggling act

BP's bumps add up to crisis. It's a high-stakes gamble, where even a tiny pinhole in a pipeline can cost billions and drive up the cost of filling your gas tank.

By David Greising
Tribune chief business correspondent
Published May 27, 2007

DEADHORSE, Alaska -- First of two parts

Painful reminders of the fallout from the cheap-oil era of a decade ago are never far from Robert Malone, the top North American executive of oil giant BP.

In March, he traveled 250 miles north of the Arctic Circle to look in on BP's efforts to rebuild the pipeline system that leaked 200,000 gallons of oil last spring onto Alaska's North Slope. But before donning an arctic parka to head into the 52-degrees-below-zero wind chill, Malone had to interrupt a meeting with workers to mark a solemn occasion: the moment, precisely two years earlier, when an explosion at the oil giant's Texas City refinery killed 15 people.

"One thing about a BP person, you'll get a can-do attitude," Malone told the group before quieting the room for the silent observance. "We've got to take that can-do and say: Can do, will do—but we've got to do it right."

The can-do culture of BP's past pushed it to explore the depths of oceans, deal with unsavory political regimes, pioneer the era of oil-industry consolidation and test the limits of technology. Malone was in Alaska trying to reignite BP's can-do spirit after nearly a decade in which the company scrimped on routine maintenance and ignored safety issues that led to the disaster in Texas and the spill in Alaska.

And now, an inability to tackle daunting technological challenges has forced BP to delay pumping from one of its brightest prospects for the future: BP's massive Thunder Horse platform in the Gulf of Mexico. A nearly 3-year delay in the startup of the world's largest floating oil platform, which covers an area the size of three football fields, is setting back the arrival of enough oil to boost total U.S. production by nearly 5 percent.

Rarely has one company faced such grave trouble at so many places in such a thin slice of time. The breakdowns form a composite of the challenges an oil giant faces at a time when fields like Prudhoe Bay are running short of oil, the refinery infrastructure in places like Texas City is out of date and overtaxed, and the prospects for success in exploration are dicier than ever.

The crisis at BP is symptomatic of challenges oil companies face in trying to slake the world's thirst for oil. The six "super-major" independent oil companies together take in nearly $1.5 trillion each year. Yet the residue from the cutbacks and scrimping during the days of $10-a-barrel oil in the late 1990s has left the industry ill-equipped to handle even the slightest hiccup.

The U.S. got a taste of the industry's fragile state when Hurricanes Katrina and Rita hit in 2005 and took out more than 25 percent of U.S. refining capacity, forcing shortages and price hikes. And now consumers are paying the price again: As the summer driving season gets under way this weekend, Americans are paying a record nationwide average of $3.10 a gallon at the pump.

The BP connection is hitting perhaps hardest of all in Chicago. In part because of recent problems at BP's Whiting refinery,

Chicagoans are paying among the highest gas prices in the U.S.: about $3.59 a gallon.

The Chicago connection is more than an ironic happenstance. Many of BP's problems can be traced to its 1999 acquisition of Amoco Corp. The Amoco purchase, followed soon after by BP's merger with Arco, transformed BP from a mid-size major into one of the world's very largest oil giants. Yet, because of Amoco's own poor maintenance record, the deal saddled BP with a huge backlog of trouble just as the industry's finances were hitting bottom. BP's immediate response to the tight times, a 25 percent cut in fixed costs, may have contributed to its problems at Texas City and Prudhoe Bay.

BP may operate with billion-dollar budget cycles, but the problems that take it down can start with something as tiny as a pinprick. A hole that size in the Prudhoe Bay pipeline system forced a months-long shutdown of half of North America's largest oil field beginning in August 2006. The Texas City explosion occurred because a single valve was left open too long. And Thunder Horse is behind schedule, costing BP $3 billion in lost revenue, because a 6-inch length of pipe was not correctly plumbed.

Getting to the root of the problems, and fixing them, would be a huge job under any circumstances. At BP, the world's third-largest independent oil producer, with revenues of $266 billion last year, the complexity is compounded by turmoil at the top. BP's visionary longtime leader, John Browne, was forced to step down in early May after admitting he lied to a court in an effort to conceal how he used company assets to help his boyfriend start a business.

Now the pressure is on Malone, a 55-year-old BP career oil man who hails from scrubby Daingerfield, Texas, population 2,517. Malone, his soft-spoken Texas twang intact though he has lived in Ohio, Alaska, and London much of his adult life, was installed as head of BP's North American operations soon after the Prudhoe pipes first leaked in spring 2006.

In his prior job, heading BP's global shipping operation, Malone moved oil tankers through the Persian Gulf and the pirate-infested Straits of Malacca. Yet his new assignment, turning around BP's American operation, he considers more difficult. And the hardest part, Malone said while inspecting repairs in Alaska and trying to charge up workers to do their work quickly and correctly, will be changing the corporate culture.

The challenge

As Malone's corporate jet set down at the tiny Deadhorse airport in late March, the first part of his mission was fairly simple: assess progress on the reconstruction of the Prudhoe pipeline system that twice sprung leaks last year. The first dumped 200,000 gallons of oil onto Alaska's North Slope in March 2006. But the second incident was almost worse: Two small leaks in August that exposed a pipeline that in many places had corroded almost entirely through.

Fixing and replacing the pipes is costly, laborious work. The tougher task, though, is the job of transforming a corporate culture that had allowed oil to eat through the Prudhoe pipes unnoticed. Years of cost-cutting and management shuffles had created frustration among Prudhoe managers. And now, in the year since the first spill, rampant overtime work and intense pressure have exhausted workers and taxed their ability to finish the job.

Much is riding on Malone's changes, not only for Prudhoe but for all of BP America from the Arctic Circle to the Gulf of Mexico. To compete in the new era of high prices, climate-change activism and cutthroat competition for oil resources, BP and others in the industry are quickly finding there is no room for error.

Over a two-year period BP will replace 16 miles of pipe at Prudhoe, the central spine of the system that pumps up to 10 percent of U.S. production into the 800-mile Trans-Alaska Pipeline System.

It's difficult and daunting work, as Malone witnessed first-hand.

There is extreme cold, for starters. Polar bears too. Some buildings have steel-caged entrance chambers from which workers scan the horizon for polar bears before walking to their blue Ford Excursion trucks whose engines idle all day

because they might not start until spring if ever they freeze.

Yet everyone realizes the cold is a necessary ally, too. Without it, work on the Prudhoe Bay field could not be done.

The hard freeze that sets in each November enables BP workers to begin spraying enough water on the tundra to form foot-thick ribbons of ice that can support the weight of the boom trucks and tractor trailers that are needed to replace the pipe. By early December the ice roads crisscross Prudhoe Bay's 335-square-mile network of pipelines, wells and processing centers.

Work in the oil field thus is a race against nature and a sprint against time. When the winter freeze sets in each fall, work crews fly in on chartered Boeing 737 jets for two weeks of 12-hour shifts. Workers pair up in quarters the size of a cruise-ship stateroom, half working days, half working nights—though night seeps into day once the sun sets for good each November and does not rise again until late January.

Crews fly in from places as far away as Texas, Louisiana, Tennessee and Georgia. Their Prudhoe Bay lifestyle—isolated from family and friends, and hard physical work often involving decades-old technology—seems like a throwback to the logging camps of the Paul Bunyan stories.

But they all seem energized by the knowledge that BP needs the Prudhoe Bay field operating at peak efficiency, and it needs the work completed quickly. And those twin needs have created a demand for work that puts money in their pockets.

"The whole reason we're up here is to make money," said J.C. Robinson, an oil-field worker for 27 years. "People are tired, but they're glad to have the work."

Still, the rush toward recovery has led to more problems.

Early on, the U.S. Department of Transportation, one of several agencies charged with inspecting the work, was rejecting 8 percent of the welds on BP's new pipes, said Rob Guisinger, a pipeline inspector for the agency.

The Steelworkers Union, representing many BP field workers, is worried about the stresses workers are facing. Kristjan Dye, president of the union local, this week worked an 18-hour day, then two 12-hour days, followed by another 18-hour day. It's tough, Dye said, but the Prudhoe Bay workers are benefiting from the lessons BP learned at Texas City, where management's refusal to listen to worker complaints may have contributed to the deadly blast.

"I can tell you, a few years ago, management was not OK with it if you refused to work overtime," Dye said. "Now, because of Texas City, they're a lot more accepting of it. We were moving toward a safer workplace even before the leaks last year."

Guisinger has seen a change even in the last few months.

"They were pushing their people awfully hard to get the work done," he said. "But my concerns have dropped off considerably. We're in a good place right now." Today, the rejection rate on pipe welds has dropped to less than 1 percent, well below the industry average.

A hiring wave is improving conditions too. BP has taken on 40 operators and technicians at Prudhoe Bay in the last six months. What's more, BP has uncorked $550 million for the repair effort on top of the $320 million it spends annually on maintenance.

Malone hopes the infusion of money will send a signal to workers that the company cares about doing things right. Even so, Malone said, no one should get the idea that BP will just throw money at the problem and not care how it is spent.

"The day someone says budget doesn't matter, well, then I'm working at the wrong company," he said after his Prudhoe

Bay tour, while traveling on a leased jet en route to Houston and a weekend at his Texas ranch.

Bashfulness and bad dreams

The afternoon of his arrival at Prudhoe Bay, Malone meets with a room of workers at Prudhoe. Dressed incongruously in a crisply pressed blue jumpsuit that contrasts with the sweaty coveralls of the workers around the table, Malone is a quiet and conversational speaker. But he's direct when he wants to make a point.

Working from person to person among the dozen in the room, Malone asks questions about the coatings on pipes designed to prevent leak-inducing corrosion from the outside. He hears about how a switch to smaller-diameter pipes will increase the velocity of the crude oil moving through the pipes—something that will help cut corrosion from the inside, which is harder to detect and is the sort that ate through BP's Prudhoe Bay pipes.

Malone also wants to know about dangers—dangers to workers and to the environment. He asks one contractor if his people are reporting all their accidents and making BP aware of any unsafe conditions.

"Our people are not bashful," responds Matthew Lanagan, safety and environmental manager for Houston Construction, a major contractor on the Prudhoe Bay field.

"That says something about your company: that you've come a long way," Malone shoots back. "We were all struggling with that a little while ago." It is a polite criticism not just of Houston, but of BP's own problems of employees not alerting higher-ups over their safety and maintenance concerns.

Then Malone turns the conversation to what at first seems almost a minor, technical point.

"And my nightmare, documentation?" he asks the people in the room. "You knew I was going to ask about documentation. That's my nightmare."

Malone's comment focused on the record-keeping required to comply with regulators in the wake of the spills. BP must track every new weld, every radiographic inspection of pipe, every time it tests corrosion rates by inserting metal tabs into the flow of oil. The scrutiny is relentless, and Malone wanted to ensure that every worker understood how significant a role paperwork will play in getting the company back on track.

But when he got back to work in Texas, Malone soon learned that documentation was creating an entirely different sort of bad dream for him. Congressional investigators believed BP was holding out on delivering key documents—e-mails and other internal memoranda created in the years running up to the 2006 spills.

Malone already had endured a blistering congressional hearing in September. With gas prices jumping because of the Prudhoe Bay shutdown, lawmakers criticized BP's safety practices and accused the company of conspiring to hike prices. Malone was too new to the job to say much of substance. But he did promise one thing: BP would be candid and honest in its dealings with Congress and the public.

But a few days after returning from his March tour of the BP fields, Malone received disheartening news: An internal BP search had uncovered a batch of e-mails containing years of in-depth discussion claiming budget cuts were compromising the company's fight against corrosion at Prudhoe Bay. Worse yet, it was the kind of incriminating communication that BP previously had said did not exist.

Conditions for disaster

"Reliable funding and resources is a yo-yo, accurate schedule [of corrosion-fighting] activities is a joke, and predicting ... impacts is even further out of the realm of reality," wrote one of BP's top corrosion fighters, in an e-mail almost a year to the day before the spill.

The note, one of dozens turned over to the Investigations and Oversight Subcommittee of the House Energy & Commerce Committee just days before its hearing in late May, is a cry for help. It appears to reflect the frustration of a dedicated employee seeking to reconcile corporate rhetoric about safety with the reality of repeated budget cuts in the field.

Ultimately, Kip Sprague, the corrosion manager, grudgingly agrees to provide a "placeholder" request for resources—a number to give his boss while suspecting all the time that it's unlikely he will get any help.

"Bitch, bitch, bitch ...," Sprague writes in response to his boss' request for information. "I will try to wrestle down some middle ground between the reality of the situation and some feel-good placeholders, just to get people off your back. However, I will not run/sacrifice an inspection strategy and program with limited resources. ... That, in my opinion, is negligent."

Corrosion—the chemical reaction between water, bacteria and steel—can take years to eat through a high-strength carbon-steel oil pipe. The caustic stew of management budget cuts and oversights that allowed corrosion to burrow through Prudhoe Bay's pipes built over a period of years too.

The Prudhoe Bay operation at the peak of its 30-year life span produced 1.5 million barrels of oil per day. But after that 1989 high point, production rates dropped sharply. A skimpy 500,000 barrels were coming out of Prudhoe's 1,273 miles of pipes each day prior to the 2006 spills.

The 1989 peak coincided with two other important events. Oil prices were plummeting by almost two-thirds from their $66 peak in 1981. At the same time, BP was tapping into new oil sources that delivered viscous, highly corrosive crude. From that point forward, oil flowing through BP's eastern operating area would be increasingly thick and slow flowing, and thicker oil is far more corrosive, thanks in part to sand that settles in the bottom of pipes and deflects anti-corrosion chemicals away from the metal they are intended to protect.

With prices skidding toward their bottom of about $9 a barrel in late 1998, the bosses at headquarters began rejecting requests for materials and programs necessary to keep the Prudhoe Bay pipes from rotting.

A 25 percent budget cut instituted in 1999, after the Amoco merger, meant that one crucial corrosion-fighting method—sending cylindrical probes called "pigs" through the pipes to both clean and inspect them—was abandoned virtually altogether, company records show. The BP e-mails also show that at one point, the top corrosion-fighting executive, Richard Woollam, also stopped buying corrosion-fighting chemicals, again in an effort to meet budget targets.

A review of e-mails shows that workers began fretting at least a decade ago that the slowing velocity of oil in the lines might dangerously create conditions for corrosion. At the same time, they saw no help coming from headquarters.

"My impression ... is that we will not be getting any relief on the budget," Woollam wrote in a 1999 e-mail. Prudhoe Bay's budgetmakers believe it is important to fight corrosion, he writes, "but, no one is prepared to let loose the purse strings."

Two days later, a colleague writes that, "due to budgetary constraints, the decision has been made to discontinue" a corrosion-fighting chemical treatment.

Two years later, in mid-2001, the budget pressure had not let up. A corrosion employee talked about "new bloodbath numbers" in the budget. Though an inspection pig had not been sent through the line for a decade, he suggested discontinuing plans for that, as well as for manual inspections of the pipes' exterior surfaces.

By 2003, BP was setting concrete plans to pig Prudhoe Bay's lines. But there was a problem: New, high-technology "smart" pigs were too long to fit through many of the bends in the Prudhoe Bay system.

When BP proposed spending $2.5 million to adapt the system to the new pigs, its minority partners in the Prudhoe Bay field—ConocoPhillips and ExxonMobil—did more than say no, according to one e-mail. They also requested that BP formally withdraw the request, thereby putting the proposal to rest for good.

By that point, the western half of the Prudhoe Bay oil field had not been pigged in 15 years.

The eastern half of the field, which BP acquired as part of its buyout of Arco in 2000, had never been pigged. By the time of the leaks last August, the key oil transit lines in the eastern area were so corroded that BP ultimately decided to replace the entire 8-mile network rather than attempt a risky, piecemeal repair. At the same time, BP had cut back on crews doing external monitoring of the pipes.

Discovery of the leak

On March 2, 2003, a worker driving along the pipeline on the western part of the Prudhoe Bay field smelled oil. Co-workers rushed to the site and quickly discovered the 200,000-gallon spill. BP's automatic detection system had missed the slow-flowing leak, which had appeared an estimated five days earlier.

BP sent a smart pig through the western section of the Prudhoe Bay field. To get a smart pig into the pipes, though, BP workers had to set up a temporary, plywood shed and specially rig the transit line to accept the long, cylindrical object. Meanwhile, a cleaning pig sent through the section for the first time in nearly two decades caused nearly 22 barrels of sludge to break free from the pipe walls.

The March spill also raised concerns about the eastern half of the Prudhoe Bay field.

Under orders from regulators, BP sent a smart pig through those eastern pipes found 16 anomalies in 12 locations, including 80 percent of the pipe wall eaten away in some points. When the oil leaked from two spots in August, BP shut down the line.

The Prudhoe Bay corrosion-control system had hardly changed since the early 1990s, and budget cuts had forced significant reductions in corrosion-fighting efforts, despite an internal audit that called for action.

Malone, who had served four years as CEO of Alyeska, the entity that runs the Trans-Alaska pipeline, got called back to North America in July. Giving up the job running BP's shipping business, and knowing the crisis he faced, Malone insisted on having unique powers in his new position.

He wanted authority to approve budgets to get pipeline problems fixed. And he wanted the power to appoint an independent person, a "technical directorate," who would review practices at the Prudhoe Bay operation and report any safety or environmental concerns directly to him.

Malone quickly replaced half of Prudhoe Bay's top managers. Malone also dumped BP's command-and-control approach, instead insisting that workers at all levels send up signal flares when they see something wrong. Malone hopes to show workers through the reactions they get that the company is listening to their suggestions. In digging into management processes that set the stage for trouble in Alaska, he determined that the turnover of senior managers was a factor, as was poor coordination and communication between BP operations on Alaska's North Slope and management in Anchorage.

Malone also has tried to instill a sense of a future for Prudhoe Bay. Specifically, he began focusing attention on BP's plans for a "50-year future" for the field. Oil may be running out, he has said, but natural gas from the Prudhoe Bay reserve is plentiful. BP is negotiating with the Canadian government for a new gas pipeline that would carry gas to Chicago and the Midwest. Still, there are more challenges ahead. "I'm not naive," Malone said. "You're talking five or seven years before

you can say this culture is permanently changed."

The big fix

When foremen for the Prudhoe Bay field work gather at 6 each morning, the sun—when it rises at all—still has an hour to go before peeking over the horizon. In a sparsely furnished room that smells of coffee, not-quite-clean clothes and a hint of diesel exhaust from the trucks idling outside, two dozen foremen meet to compare notes on their progress in rebuilding the Prudhoe Bay pipeline system.

"We're sort of getting crunched on our time limit," says Lanagan, the Houston Construction contractor. "But we're not going to cut no corners."

Craig Flippo, operations representative for BP, reports on his discussion with design engineers based in Anchorage. "We're working with the operations team to make certain we're following our management-of-change process."

He underscores the point by reminding the Prudhoe field workers how their jobs are affected by the change in management systems. Before any major new work can proceed, Flippo reminds the foremen, they must file a detailed safety analysis, an analysis of environmental hazards, agree with Anchorage on the scope of work and get clearance to proceed.

George Nyftler, foreman for the 240-person contingent from Houston Construction, said high prices are keeping oil workers busy all over the U.S., so it can be hard to recruit workers to Prudhoe Bay. He notes that the base starting pay of about $80,000 a year—and more overtime available than many people care to work—can be a lure.

"It's to the point where special skills and special equipment, anything specific to the Arctic, are in short supply and hard to come by," Nyftler said.

Later, with the arctic sun at its mid-day peak, work is going full tilt. One team is placing stanchions in the ground. Instead of using concrete footings, they pour a rock-and-water slurry into the post hole: The permafrost will freeze it as hard as concrete. Barring a catastrophe of global warming, it should never melt.

Half a mile away, welders sit in a warming hut as a team of workers prepare two 80-foot sections of pipe to be joined. With the minus-52 wind chill a glass of water thrown into the air will freeze before it hits the ground. A huge gas jet heats the ends of the two steel pipes until they are warm enough to be worked with a welding torch.

That's when three welders leave the hut to take turns on each joint. The most skilled welder lays down the first, most critical bead. Two others complete the joint. Once completed, it must be X-rayed for quality. BP, the State of Alaska and the U.S. Department of Transportation review slides of each weld.

Malone, on his inspection tour, steps outside of a Ford Excursion truck as a group of workers prepares to lift part of a 3,000-foot-long section of pipe onto its stanchions. A treaded vehicle sidles up to the pipe. The workers sling a thick chain underneath the pipe, then connect it to a boom extending from the side of the vehicle.

When the boom operator begins lifting, the seemingly endless string of insulated 18-inch-diameter pipe wriggles and squirms like a piece of boiled pasta.

At one point, Malone watches as a worker absent-mindedly strays toward a pipe section being held aloft by a boom. It is a violation of company policy, not to mention dangerous, to walk under a suspended load.

Two co-workers call out to their wayward colleague. He steps back from the brink of danger.

The incident strikes Malone as a sign that, 250 miles above the Arctic Circle, the 5-year process of changing BP's culture is starting to take root.

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