Introduction

The purpose of this document is to serve as on outside view of the current state of 'Protection' at the Texas City Site in terms of the following three components (the 'Protection Engine'):

1. Commitment
2. Cognizance
3. Competence

In addition, we will extend that outside view to include the three main levels measured by good 'Navigational Aids' – each level devoted to a set of protection factors that need to be regularly measured at that level against the Texas City Site's stated commitment regarding protection. These three levels are:

4. Organizational Factors
5. Local Workplace Factors
6. Unsafe Acts (the factors affecting human errors and violations)

When combined, we will have six arenas about which we will share our view of the current state, and for which we will make recommendations consistent with moving the Texas City Site to being a petrochemical site free from injuries and incidents that could cause harm. In so doing, this document intends also to serve as a bridge of understanding for the immediate focus on clarifying each leadership team member's protection accountabilities, as well as the protection accountabilities in each of the roles that report to them and between the different groups.

What this document is not intended to be:

- While comprehensive, it does not exhaust the possibilities for other critical priorities:

This set of recommendations should be used as a starting point for the leadership team (and others) to crystallize their own additional recommendations at the Leadership Team Action Day (and beyond.)

- It does not include every recommendation made (or implied) by interviewees themselves, many of which are excellent.

They are not all included because of the level of detail, but, for example, when considering changes to tr@action, there are excellent suggestions about development of people's skillful use of that system in the report. This applies to training and lots of other arenas. The leadership team will keep at least one copy of the report for this purpose.

The most immediate recommendation regarding strengthening accountability and horizontal as well as vertical management of protection:

The bridge between the Report of Findings and the focus on clarifying accountabilities for protection should also serve to illuminate the necessity of transforming the many 'expected but unspoken' expectations for protection that already exist between each of the manufacturing areas and functions into spoken commitments, or said another way, public agreements. Building on that foundation, these groups can then begin the continuous process of negotiating expectations periodically (quarterly?) for strengthening weak or missing parts of the "safety net". We recommend the site leadership sustain some version of this process so that the nodes of net and the threads connecting the nodes can keep getting stronger, as people coordinate action better and better, and also that people can think and act on behalf of the safety net as a whole. Accountability for protection is then *dynamic and evolving and composed of the web of these committed conversations*, rather than static roles with too much white space in between, making management of protection more and more effective over time.

Most of these recommendations will rely on this ongoing coordination of action. As the "safety net" comes clearly into view, we suggest you use it (and test it) to implement action (across groups) that by necessity involve several groups, such as:

- ensuring compliance delivery (to evaluate and correct for gaps in the education phase), just culture,
- changes involving training (what does operations or maintenance expect of HR and vice versa?) and
- piping integrity (what do the MATs, commercial, maintenance, inspection, Don, Kathleen etc etc expect of each other and by when?)

Commitment: Current State

The Report spoke often regarding perceptions of the leadership commitment to protection (safety, process safety, integrity management, etc.) as one that has changed in terms of the way it is spoken about, and many gave credit to leadership for physical changes (particularly in the last two years) around the site. Many applaud this difference while simultaneously reserving their enthusiasm for the true test: 'Will leadership persist in being proactive as the memories of the UU4, AU2 and UU3 fade from view?' Many point out that even the efforts that follow these incidents, in general, are reactive and seem aimed at 'preventing the last accident from happening again.'

Don Parus is mentioned by the overwhelming majority of those interviewed and surveyed as genuine in his commitment to people and safety, while oftentimes, in the same breath, they question if everyone on the leadership team is on board with Don. Exceptions to this do occur. In each MAT some individuals could point to positive differences. The

West Plant in particular is seeing many changes in leadership behavior and decisions with sustainability past current management in mind; and yet many still too easily see a future where it all slides back to "the way it was before the incidents," and so people "pray and hope that this will not pass" from MAT leaderships' focus. The East Plant is seen as exemplary in the leadership commitment to diversity, and point to the Tier three organization there as "all the evidence you need"; yet we were told many stories about times that left the distinct impression that margins could beat out safety as log as they if they were good enough. Infrastructure receives praise for SHIFT and PIP – especially since some were initiated well before the tragedies of 2004; others are quick to point out that it's easier to replace the low pressure, slow moving pipe that requires no significant outage for installation than it is to replace pipe that requires 'an important unit to shut down", leaving seven years of fabricated pipe in a pile waiting for the "appropriate time."

A&A was mentioned in the Report as being proud of their performance and happy to share with others what they have learned; they point to CATS often, mentioning always in the same breath "because it is hourly run"; yet we heard many stories of dangerous conditions persisting although pointed out to leadership, because "the unit can not come down now". The chemicals part of the organization still has talks about 'Project Future', and if you give an ear, you can spend a long time listening to variations of stories regarding "agreements made on the basis that promises went with them; here we are today, and they still haven't kept promises that make our people out there feel unsafe".

"*Soon becomes never around here*" mentioned one person in the Refinery, pointing to successive postponements; starting with fixing it "soon (meanwhile we put a clamp on it), which then becomes next week, which becomes next month, which becomes next turnaround, which becomes never."

The Leadership Team took a strong step forward last week. First on Monday, in the way they embraced the report, and then later on Wednesday, when they helped others embrace the report in the larger group. Thursday morning, when each Leadership Team member stated their clear accountabilities for protection, they took another step forward in commitment – both as individuals with a passion, and as roles with a set of accountabilities.

The work in front of the expanded leadership team – Site, MAT, and Function leaders – is to continue to act consistent with that individual and personal passion they are expressing (each in their own way) more strongly than ever before (at least in the eyes and ears of the beholders), as well as to conduct their business consistent with their stated accountabilities for protection.

The work that began Thursday was seen by many of the people who were still in that room at five and then six p.m. Thursday, as important and "*key*, it was the right thing to do to slow us down to do this right," said one. "We had better see it through, no matter how long it takes," said another.

The other place that people will be looking for the expression of leadership's commitment to protection will be in the resourcing and development of good training for operators, maintenance, I&E, high-voltage electrical, 'hands-on' engineering, and other craft, technical, and professional skills. In addition, they are looking for early

involvement of the end users in capital projects, and even small instrumentation improvements (like the Flares examples) that take protected usage of users into account when still in design phase.

Recommendations Regarding Commitment:

1. Site, Function, and MAT leadership need to be seen and heard where they are not often seen and heard. They need to find out about the people who work in Texas City, and build relationship all around. They need to be heard less as explainers of new policy and programs and more as listeners to what people need to work easier, and more protected. (We also attach a document entitled "Leadership Conversations" that covers recommendations regarding protection for all levels of management with more detail on this and related practices.)

2. Management must make a serious, ongoing, concerted effort to find parity between conversations for production and conversations for protection. This will be different for each manager and leader. It does not mean 50-50. The recommendation is that each person reading these recommendations start with observing what you do say, and then add conversations for protection whenever and wherever they seem appropriate and natural and right. Even if it feels a little forced at first – that feeling is the feeling one gets when they are trying to make a change in their own behavior. Stay with it. It will become more and more natural. Eventually you may discover that there isn't anything that is important to the company and to the Site that you cannot work on by working on protection. *Conversations for protection give you more than just more talk about protection. Conversations for protection get you closer to what it will take to make the Texas City Site a great place to work. Conversations for protection will take us all further down the road toward treating people with new levels of dignity and respect. And conversations for protection are also working on the fundamental elements that make reliability happen, that make good efficient and effective production happen.*

3. Each Leadership Team member should spend time in the field each week understanding how people get things done around here – what it takes and how you could maybe help.

4. At the MALT level, all individuals in Tier Three roles should pause and reflect upon the following questions:

   I. Do I mostly rely on a particular shift or particular individuals within a shift to get my information regarding how things are going?

   II. How can I expand my base? How can I develop a wider set of eyes and ears in my organization from which I can get more diverse data and with which I might make better decisions?

   III. Which Units do I need to understand more? How will I accomplish this?

   IV. Have I inadvertently created 'in' groups and 'out' groups within my MAT? How can I undo any damage that may have caused?

5. Function Leadership Teams should pause regularly (Weekly? Twice weekly? Bi-weekly? Monthly? You decide), and answer a set of questions they create in order to keep their responsibility and accountabilities for protection alive and in front of them. How can we get more protection out of this seemingly unrelated activity? How can we show up as more concerned, more engaged, and more responsible to the FLLs and hourly workforce? How can we make their job easier so that they are freed up to spend more time with their crews and jobs, working safely?

6. Refine Leadership Team member's accountabilities for protection quarterly as discussed above to keep building the shared commitment and understanding regarding to whom do we go for what? When so doing, refine accountabilities for protection within this context: "With these refinements, clarifications, and changes, are we building the Texas City Site's Protection as a *Fitness Program* instead of accounting for activities around negative outcomes or preventing them?"

7. Along with doing this quarterly accountabilities maintenance, always follow that activity with a discussion around this question: "What would we be doing differently, how would we be ***being*** different, what would we be managing more strongly if we had had an incident that led to the loss of life of seven people this morning? What would we have pulled off the back burner back up to the front one?"

8. Continue to build the HSSE Function as a job where "line managers who got the job done safely" go; have it seen as a high potential-type role, where people who are going places in BP must spend some meaningful time and make something happen.

9. Review the Strategy work on Auditing; do the exercise as a Leadership Team of determining (put cost aside for a few moments) what the site requires in terms of daily protection auditing. Include all facets of protection.

10. Develop a visible commitment to integrity management, environmental safety, and process safety by talking about leading indicators that you are managing as part of the site's protection fitness program. Consider how the voice of the protection conscience makes it to the Leadership Team table. The current potential difficulty to overcome is that the site has aspects of functional excellence for protection in three different Functions that we can see at the Leadership Team table: HSSE, Technology (PSM, Engineering Authority), and Maintenance (Inspection).

11. Commitment means resources as well as motivation. We recommend that the leadership team find ways to reinforce the remarkable openings provided by Don Parus, Susan Dio and members of the commercial team who promised publically to help London see the business case for adequate protection resourcing and the risks of inadequate resourcing coupled with too much cost pressure. Operationalizing these commitments by inviting people to raise issues and breakdowns is a start. Using the routine of expectations/commitments to drive out waste is also possible, but not in the old context (for some) that all waste must be eliminated before we address these integrity management investments.

Cognizance:

The purpose of focusing on cognizance is to answer the fundamental question: "Do we know what we need to know about the current conditions to make good decisions?" The 'position paradox' is alive and well in Texas City. The way the team responds to this Report will determine whether strides toward working through it are being taken. Part of the answer to this challenge has already been addressed in recommendations above: having conversations for protection, getting to know people and how to make their jobs easier and safer, etc. Other aspects will show up below in the other sections. Fundamentally, we recommend the leadership team answer these questions:

In order to be able to truly manage protection, what should we know about the actual current status of:

the physical conditions of equipment; (including pipe, welds, vessels, alarms etc.)

process safety management;

field-tested effectiveness of training, including in use of new procedures?

Recommendations Regarding Cognizance:

1. Determine who is accountable for and owns the site-wide prioritized plan for protection. This would include all aspects of protection, and would cross many distinct accountabilities at the table. As a part of that exercise, start to determine where we should adopt the view of the people closer to the kit, and where we should do a better job of explaining why what we are currently doing is protecting them. Determine milestones as ***outcomes*** instead of ***activities***. Determine the gaps and then promise how they will be closed. Another way of saying this is, "What is our definition of and out plan for getting the site to an acceptable level of 'protection fitness' and what do we need to sustain from there?"

2. Determine protection resource needs by consulting benchmarking tools, but make decisions based on, "What do we need to know about the hazards that might be unique to this site, without regard for benchmarks. Then ask "How can we most cost-effectively close the gaps?"

3. Clarify as soon as possible for which organizational changes an MOC is required, and under which they are not. Currently there are some expectations frustrated by this lack of clarity.

4. We understand that someone has been hired to improve Tr@ction. Please get input from every operating level – both on the input and output ends – as to how this tool

could be made powerful and effective. (At the end of last year, for example, it appeared, as we went through the Tr@ction and PSM databases with their respective process owners, that none of the major incidents of 2004 had been entered into either.) There are many dimensions of this task (many of which apply to the PSM data base as well) but in terms of cognizance, this tool is not being monitored well or used to create knowledge and learning well.

5. Charge HSSE with convening the proper conversation to determine the family of metrics that will be used to assess and analyze protection performance, and challenge them to come up with the ten critical "upstream indicators" to downstream negative lagging indicators. That is – "What are the dynamic events that must be managed to produce the non-event called protection?"

6. Have the Leadership Team discuss and answer this question: "What actions normally taken at the MAT level represent sufficient risk or sufficient perceived risk, that they merit a Leadership Team conversation before they are taken?" (This recommendation is here for the opportunity to get more than one pair of eyes looking at things that could potentially be viewed as 'production over protection' and for learning and shared understanding to occur; this is not recommended out of a distrust of any LT member).

7. Look at the dissemination of protection information and develop protocols that address the holes in the net. For example: who gets the results of a Level A investigation Report? Who just gets the one-pager? To whom do we distribute Level B investigation reports? Who monitors whether reports are distributed? (We received many concerned comments about "not knowing what happens right here in Texas City, let alone lessons from other sites".)

Competence:

Several of our recommendations above and below could have been made under this heading, which focuses on having the proper technical capabilities to know what should be measured and monitored, and how; "competence" also has to do with whether protection information is acted upon. To the above, we would only add that a robust "near-hit" reporting program is a "free lessons" program for protection fitness and is missing at Texas City. After Action Reviews, for example, are beginning to take root in some areas, and becoming "check the box" in others. There are many specific recommendations in the report of findings about how to improve this and other learning/acting mechanisms.

Organizational Factors Recommendations

Safety Specific factors: Incident reporting occurs for routine lagging indicators and such reports are having little visible impact on decisions and direction of safety management throughout the organization. A report out of the current recordable rate or any other

lagging indicator tells us something about what did or did not happen a while ago, that when aligned with latent conditions, breaches the Texas City Sites defenses-in-depth. Managing by lagging indicators is like managing by the scoreboard – it is too little, too late. Trending information of lagging indicators can be useful, but little trending information is provided to the MDLs. Superintendents, and front line leaders, we were told. Such information, when readily available can enable a clear focus on what they should be mindful of during production and protection assignments. In the absence of meaningful leading indicators (such as "critical events"), Texas City will repeat unpredictable and unsatisfactory performance in the protection area.

Procedural factors: Procedural effectiveness at Texas City is negatively impacted in a significant way by the past availability of exceptions to standard practice. This only added more inconsistency in procedural application across the various operating units than the inconsistencies born of other causes. PSM action items and the perceived inability to close out items represent a continuing and serious indicator to those below the Tier Three level of a lack of organizational commitment to protection at the production level of the organization. Action to standardize some procedures is of course underway. We recommend that steps be taken to ensure that the best procedures are the ones chosen (for example, making full use of A & A competencies.) Most important, though, is that like training, compliance delivery needs to be monitored and evaluated in a field-testing sense, not just a paper sense.

Management factors: Too often, safety performance occurs at the sharp end of the process by task performers and their judgments, rather than from a robust risk assessment process with active management involvement. We know there are exceptions to this statement. However, the lack of leadership and management visibility, ("except when something goes wrong") communication, and conversation around protection coupled with site history and a natural focus on production causes a significant priority for production over protection at Texas City. We recommend *integrating performance management of protection into all leadership team meetings*, rather than setting it off separately as a monthly discussion. We recommend an inventory be taken of other routine management meetings within the different MATs and functions to see where performance management of protection can occur routinely. We emphasize performance management- a focus on outcomes, not just processes, on positive not just "negative production" and a monitoring of progress regarding expectations from and of the group regarding protection. These are some of the disciplines or requisite practices that are absolutely essential.

Intentions and processes to maximize organizational intelligence and competence are missing, as in real organizational learning that transfers innovation and learning, versus that which merely catalogues lessons learned. Getting the right people on the bus is more important than process and strategy. Current managers need to be reviewed for leadership competencies versus appointed for reasons of previous experience or reputation for production results. In a couple of cases, due to our promise of confidentiality, we have made recommendations to managers regarding a direct report without using any information from the individual's interview.

Technical factors: Maintenance underinvestment over the years has significantly altered the listening for management's safety commitment and diminishes production's

relationship to safe practices for routine assignments (thinning pipe, inconsistent asbestos abatement practices, corrosion under insulation). In addition, when asked what area concerned people the most in terms of safety performance – or where the next injury was likely to occur – turnaround maintenance was at the top of the list. Many added that this was due to the requirement of clustering them all together and thus not being able to select contractors by their safety performance. Again, one part of what is needed is an independent voice or "conscience" regarding technical decisions. Inspectors, PSM managers, engineers need to be heard unfiltered through the concerns of production and in many cases need to be more freed up to act.

Training: Determine "what is so" about training and distribute the accountabilities appropriately so that strong, necessary, verifiable, and sufficient learning occurs. Consider 'Training' to be an essential element of the 'protection fitness program', and until there is a verifiable state change in training, make it a regular Leadership Team conversation. We were told, by person after person, that current methodology may address business concerns for documentation of mandated training, but it causes little to no impact on skill or competency development of the participants. Measures of training effectiveness are critical to organizational development and are also noticeably absent.

We recommend that Texas City come up with a Protection Leadership Development Strategy, that builds on the investment already made in HRO, but that is not limited to that set of competencies. (Several recommendations included here are meant as catalysts or elements of such a strategy for developing managers.) For one thing, there are protection management competencies that are more fundamental than the HRO skills that need work. Also, it would make a difference to think through and resolve the contradictions in the way HRO is being approached- at least at this site, if not at the Group level. It seems to us that certain HRO practices are sometimes cherry-picked and put into the overall context of controlling costs first. HRO's can and do save money in the long run, but at BP, the HRO ideas are in danger of turning into more management rhetoric because fundamental elements of HRO get left out. You can't have HRO performance and culture without some level of redundancy, sufficient resources of time, attention, and money to allow people to think, push back, stop work, measure, evaluate, and act upon a different signal strength (weak signals, anomalies etc). Preoccupation with failure means responding at least to some degree to people's concerns and requests that show up in tr@action and other data bases. In short, the pitfall can be trying to get the fruits without the cultivation and harvesting, which is actually further harming the management culture.

We recommend that development be led where possible by managers and that it be integrated into the practical work sessions on protection issues.

Work Place Factors

Few levels of the organization are exempt from the "scarcity of time" syndrome that tends to reinforce a culture of acting on priorities versus a culture of acting from values and strategies. From a protection perspective, the quantity and competence of managers and supervisors is questionable given the cultural work needed at Texas City. The prevalent view of procedures as "unworkable" at the production level contributes to the culture of individual interpretation of protection requirements and tolerance for variation from accepted safe practices. Many, many people pointed out to us that in several cases they knew personally, these were good people who could not make sense of the procedure as written, and were trying to the best of their ability to understand the ***intent*** of the procedure and comply with that.

All workplace factors are easily solved with sufficient resources and attention. Education and communication must include verification of what was learned (in education) or heard (in communication). We believe that a serious elimination of what might be useless activity at the unit and MAT supervisory and management levels would free up much of the organizational attention required. There is no more precious commodity that a supervisor or manager has than her or his ***attention***. The management of this commodity must be taught at all levels, as well as living with "what doesn't get done." This is a serious priority.

Unsafe Acts

The overwhelming relationship to accidents as "the individual's fault" causes investigative results to stop at this level and reinforces a resignation for access to mitigation vertically through the organization. Errors are not viewed as "information processing" problems for which the organization is responsible before the individual is responsible. We would recommend training for supervision and managers on the subject of human error and violations because it is important to understand that sometimes our best people make some of our worst mistakes.