OCCUPATIONAL SAFETY
AND HEALTH STANDARDS BOARD
2520 Venture Oaks Way, Suite 350
Sacramento, CA 95833
(916) 274-5721
FAX (916) 274-5743
Website address www.dir.ca.gov/oshsb

MINUTES FROM THE ADVISORY COMMITTEE
MEETING FOR TITLE 8, SECTION 6875
Diesel Engine Air-intake Shutoff Device
Cal/OSHA Training Room
2211 Park Towne Circle, Sacramento, CA
August 27, 2009

The meeting was called to order by the Chairman, Hans Boersma, Senior Engineer-Standards, Occupational Safety and Health Standards Board (Board) at approximately 10:00 a.m., Ms. Bernie Osburn, Staff Services Analyst was present to provide assistance. Mr. Clyde Trombettas and Mr. Patrick Bell represented the Division of Occupational Safety and Health (Division).

The Chairman reviewed the Board's policy and procedures regarding the goals, objectives and use of advisory committees, and the Administrative Procedures Act requirements that must be considered during the rulemaking process. The Chairman stated that the committee meeting's purpose was to determine the necessity for the proposal and if a standard was needed, to determine appropriate regulatory language that would be clear, and not duplicative of existing Title 8 standards. The Chairman stated that the committee is being convened per the Board's Petition File No. 505 Decision dated November 20, 2008.

The Chairman summarized the history and purpose of the petition that led to the advisory committee meeting. He stated that the proposed language distributed to the advisory committee members is only a starting point, employing standard language used by the Board to initiate a rulemaking proposal. The purpose of the advisory committee is to review the proposed language, determine whether it is reasonable, whether changes are required, or whether different language is necessary.

The Chairman further stated that the Board must adopt standards that are at least as effective as counterpart federal regulations, and if there are no counterpart federal regulations the Board can promulgate its own standard. He stated that there is no federal regulation specific to refineries with regard to the air intake shutoff device, but there some California standards within the Petroleum Safety Orders—Refining, Transportation, and Handling, Subchapter 15, which are applicable to refineries. There is one standard that applies to internal combustion engines driving gas

compressors only, but all other diesel equipment would not be required to have an air intake shutoff device.

In addition, there is a general requirement in Subchapter 7, General Industry Safety Orders, which requires the establishment and implementation of a safety program to identify and mitigate hazards. The Process Safety Management program, which is administered by Mr. Trombettas, contains requirements for preventing or minimizing the consequences of catastrophic releases of toxic reactive flammable or explosive chemicals. The establishment of Process Safety Management (PSM) regulations is intended to eliminate to a substantial degree the risks to which employees are exposed in petroleum refineries. The PSM standard mandates the application of management programs not limited to engineering guidelines when dealing with risks associated with handling or working near acutely hazardous materials or flammables at refineries.

Another standard that might affect some diesel engines is Subchapter 14, Petroleum Safety Orders—Drilling and Production, which states that when tank truck engines or an auxiliary internal combustion engine is being used to furnish power to transfer a flammable liquid the vapors that may be liberated by such transfers shall be prevented from reaching the truck or auxiliary engine and if necessary the vapors shall be piped to a safe location. There is also a requirement for boom-type mobile cranes in which controls within the cranes must be provided to include means to stop engines under emergent conditions.

Thus, there may already be a requirement, not specifically for an air-intake shutoff device, but there must be some way to shut an engine off during an emergency. In a refinery, it is highly likely that there may be a case where flammable vapors are entering the intake, so a shutoff device would be very effective. The standards do not indicate exactly what must be installed, however.

The Chairman then introduced Jogen Bhalla, the Petitioner.

Mr. Bhalla paraphrased Professor Trevor Klatz (sp?) that diesel engines are dangerous and must be treated with as much respect as naked flames. When Mr. Bhalla started working on this issue

approximately two years ago, he did not have a lot of information because his background is primarily process control automation in the petrochemical and oil and gas industry. Therefore, safety was a fairly new field for him. For the last three years he has had the opportunity to speak with many safety managers from refineries, chemical plants, and petrochemical plants. He also has had the opportunity to speak with OSHA on numerous occasions, as well as the Mining Safety and Health Association (MSHA), Minerals Management Service (MMS), and the Chemical Safety Board to really understand what the issue is, what is going on in the plants currently, and what can be done to improve safety. During this time, Mr. Bhalla was able to a lot of good information and input, and he expressed thanks to the organizations and people that had been instrumental in this process.

Mr. Bhalla stated that he had filed the petition approximately 18 months ago to improve safety in oil and gas refineries in California. He stated that after the BP incident, there were a number of inquiries as to how to protect diesel engines from these overspeed conditions, what manufacturers are doing to address them, and what the industry is doing about it. Based on his limited data, he saw that there were a lot of similar accidents happening in the industry and a lot of people being killed. At this stage, he also spoke with OSHA, Cal-OSHA, and the Chemical Safety Board, and they all encouraged him to proceed on this initiative.

He found that although in Europe, Canada, and other countries people are very well aware of this hazard and have been working on it to prevent this condition, in the United States, particularly in the onshore industry, there was not much awareness of this overspeed issue. Thus, he started on an awareness campaign to let people know of the danger involved with the overspeed condition. He also found that there were a lot of inconsistent industry regulations and corporate policies in place. For example, a lot of multinational oil and gas companies working around the world have very good and very strict guidelines and policies to prevent runaway diesel engines for their facilities outside the U.S., but there were no policies in place for the onshore diesel engine overspeed protection. In addition, MSHA, MMS, the National Fire Protection Agency (NFPA), the International Organization for Standardization (ISO), European organizations, Canadian organizations, and the

American Petroleum Institute (API) all have some standards and regulations to address this issue, but the onshore industry was left out.

Mr. Bhalla stated that California really should be commended for being the only state that has existing regulations for stationary diesel engines, which is a very good start. That is why he wanted to address the current regulation and see if it could be expanded to make it even more effective. There has been inconsistent compliance among the production people and the lead refining people, as well as the difference between onshore and offshore operations. The diesel engine risk is the same no matter where it is operating. There was no consistency in policies, which Mr. Bhalla wanted to address in the petition. In addition, he found in his research that there are a lot of existing standards and regulations by all of the agencies and countries, and these regulations have been in place for more than 20 or 30 years in some cases, and the compliance has been excellent.

In talking to people in the field, Mr. Bhalla found that a lot of people who have experienced runaway diesels were using phone books, 2-x-4's, or jackets to run toward the engine when it is in the overspeed condition to prevent the fire or explosion mode. Mr. Bhalla believes that is a very risky practice. The proven technologies and protection systems addressed in the petition have been in existence for more than two years. The major manufacturers in particular, such as Cat, Cummings, and MPU Detroit Diesel, are well aware of this hazard, and they do provide the overspeed protection systems with their engines, and now they have initiated more projects to integrate a solution as a part of the engine from the factory and limit the devices being installed in the after-marketplace.

He stated that there is a clear need for a rulemaking package. There have been a number of incidents and accidents to emphasize this need: the BP incident is one of them; BLSR; and there have also been a number of offshore incidents. This is why MMS has such strict regulations and widespread compliance in this area.

When Mr. Bhalla presented a paper on this issue at the Mary O'Connell Safety Institute two or three weeks ago, he found that the diesel engine is a potential detonation source causing much more damage than an ordinary, legal (?) flame. There have been numerous accidents and near-misses, all

of which involved some kind of truck, and many of these trucks were operated by contractors. As indicated by these accidents, the diesel engine hazard is well illustrated.

The bottom line is that there are going to be releases and leaks in the facilities; they cannot be totally controlled or prevented. In addition, some of these facilities are 80, 90, or 100 years old, which means they need a lot of maintenance, upgrades, and expansions, and those actions require a lot of engines. Sometimes those engines have to operate in the refineries to do some of those jobs like expanding or erecting new equipment in the expansion, so the number of diesel engines operating in these facilities is going to go up as refineries continue to expand and modify. He has witnessed a long row of trucks parked right outside of the refinery or close to the refinery, waiting for their turn to pick up a load with their engines running.

There are a lot of gaps in the existing regulations, particularly in the control measures, _____ weaknesses, including the hot-work permit, _____ gas detection system or traffic management and control. These gaps have been discussed with the industry as well as with OSHA, Cal-OSHA, and the Chemical Safety Board, and there was general agreement that those gaps need to be addressed. To date based on Mr. Bhalla's research, there have been more than 24 deaths and more than 125 injuries, although finding data specific to California was very difficult. At the Texas A&M Safety Conference, a paper on the release data was presented that indicated that there are more than 30,000 releases a year in the oil and gas chemical petrochemical industries. Of those 30,000 releases, OSHA only looks at 400 because of resource and time constraints, and the Chemical Safety Board only looks at seven to ten of those. As a result, the data does not provide all the information necessary to make smart decisions. However, the accidents demonstrate otherwise.

Mr. Bhalla was able to find companies that voluntarily report their releases, and he came up with accident data for California due to equipment failure, operator error, oil pressurization, _____ failure, and other reasons. Then he was able to collect information from people in Bakersfield who had experienced these incidents, and some of them have taken corrective actions to prevent it, particularly Oxy, KVS. Last week, when Mr. Bhalla was presenting a paper at the United Steel

Workers (USW) conference, there were some people from Shell in the audience who shared some Shell explosions that had taken place in Bakersfield, down to the model number of the tractor, a 580p. Petrolight Bakersfield data is documented, so Mr. Bhalla was able to obtain that data as well.

Thus, although we know we need diesel engines to do the jobs in the plant, particularly stationary engines for the gensets, for the water pumps, or for the vacuum trucks, the lighting towers, and the welding machines. These engines present a risk, and we know the harm these explosions and incidents can create. Therefore, Mr. Bhalla believes that the advisory committee can come together to develop and implement a plan before another accident occurs. The question really is, if this has been identified as a hazard, can this hazard be eliminated, and if not, can the magnitude of the hazard be reduced.

Larry Pena of Southern California Edison Company asked whether there are other sources of ignition in a petrochemical facility. Mr. Bhalla responded affirmatively. Mr. Pena then asked why the concentration is solely on diesel engines. Mr. Bhalla responded that although there are many ignition sources in petrochemical plants, the diesel engine is one source that can be positively, effectively, and confidently controlled, which helps to minimize to number of ignition sources.

_____ asked why Mr. Bhalla is just targeting the refineries. If it is such a hazard, there are hundreds of industries across the country where events like this have the potential to occur. Mr. Bhalla responded that the heading for the petition addresses oil and gas, chemical, petrochemical, and refineries. However, the summary only included refineries. Mr. Bhalla stated that all of the facilities addressed in the petition needed to be included. He stated that mining safety and health and the offshore industry, such as the Coast Guard, already have standards and regulations in place to address the issue.

_____ asked why the petition addressed only diesel and not gas explosions. Mr. Bhalla responded that gasoline engines do not get into a runaway condition. They do provide a hot ignition source because of spark plugs and catalytic converters, but gasoline engines can be controlled, and if a gasoline engine goes through a rich medium, it does not go into a runaway condition, it would die because of a rich mixture. However, they do present a risk because of the

catalytic converter and spark plugs, which is why the Canadians, the Europeans, and other countries do not allow gasoline engines into their facilities.

The Chairman stated that the committee would address this issue shortly, and he asked that questioners concentrate on the petition itself.

_____ stated that part of his question had been whether Mr. Bhalla's device is going to eliminate the hazard from all diesel engines. Mr. Bhalla responded affirmatively.

_____ then stated that Mr. Bhalla's response was not completely true because there are plenty of hazards on a diesel engine that will not be controlled as a result of a shut-off for the air intake. Mr. Bhalla responded that that is a good point, and he indicated that some of that information is in the package he distributed to the committee members.

_____ asked further, as a point of clarification, whether all incidents would be prevented if the air intake shutoff device were installed. Mr. Bhalla responded that it would part of the solution. The Chairman clarified that the petition addressed only runaway engines. _____ stated that Mr. Bhalla appeared to be supposing that if the device were installed on all of the diesel engines involved in the reported incidents, the incidents would not have happened. Mr. Bhalla responded that the device would address the most common problem, but it does not include, for instance, operating the engine in a very hazardous area such as Zone 2; spark arrestors would need to be considered as well.

Wayne _____ from Valero _____ asked whether the NRC release data referred to all releases or releases of a flammable content, knowing that NRC needs to hear about toxics, flammables, and other, fairly benign material. He asked whether the data submitted was a total count or a subset of the total. Mr. Bhalla responded that the data on the NRC website could be sorted many different ways, and the data submitted was sorted as the hydrocarbon release data. Mr. Bhalla further stated that it might also include other releases as well.

_____ asked whether the device has a simple over speed trip or whether it would be an electronic-driven device that trips when a sensor detects a certain LEL. Mr. Bhalla responded that

the first device was invented by ESSO in the United Kingdom after a big accident. He further stated that the device is self-contained, does not require wires or cables, and only works on the air flow when the engine is in the over speed condition due to the air velocity increase it shuts the engine off. He went on to state that other devices are based on detecting the speed and then shutting down the engine. He stated that it is a very simple and proven solution. Otherwise, engine manufacturers would not be offering it as part of their solution. He had the experience of working with Cummins for over two years, and Cummins has very elaborate quality standards and very elaborate requirements before they will install a safety device on their engines, and only after undergoing extensive tests and processes did they agree to incorporate this solution in the QSX, QSM, ISX, ISM engine series.

Mr. Trombettas stated that Mr. Bhalla had cited a number of commercial mobile industries, and he asked whether companies such as GM, Ford, Dodge, and others would be included, because a lot of those diesel trucks are used in refineries; they are usually welding rigs mounted on the back of a pick-up truck or similar configurations. He asked what that industry had reacted to the installation of the device on their engines. Mr. Bhalla responded that the consumer manufacturers are leaving that choice to their dealers.

_____ with _____ Refinery commented that in the data he has looked at, it appears that anywhere that uses a diesel engine has the potential for some kind of gas release. He asked what percentage of the accident data reviewed by Mr. Bhalla referred to refineries.
Mr. Bhalla responded that although most of the data had come from the oil and gas production industry, with the BP and Occidental Gas Refinery incidents being the major accidents. He further stated that there have been some incidents in Europe that he did not list, as well. He stated that those incidents were the justification for Europe's strict regulations.

The Chairman stated that the committee would rely on Mr. Bhalla's expertise throughout the meeting. He then reviewed relevant accident data, stating that many of the incidences did not cause bodily harm. The accidents Board staff found, two of which dealt with well sites, are covered by a standard, and this demonstrates that although there is a standard, there are still incidents. In one

instance, an employee was reaching for a manual shut-off device when an explosion occurred, which illustrates that often manual devices are not very effective.

Mr. Pena stated that he was not familiar with the incidents cited by the Chairman, and he asked whether they were petrochemical facilities. The Chairman responded that they were gas wells and oil wells.

Mr. Pena asked whether the proposal would be applicable to those type of facilities. Mr. Chairman responded in the negative, stating that there already is a standard, but his research was intended to show what kind of accidents occur in the case of a runaway engine. He stated that the environment is less controlled where there are well sites. There are problems with cleaning and maintaining the well heads, and releases are happening rather frequently, which is one of the reasons the standard for well sites is in place. The only information he added that was not included in his search was the Texas City accident in which there were 15 fatalities. However, the cause of that accident was not firmly established. There are witnesses that said that they saw and heard the diesel engine of the truck speeding up, and they saw a backfire and ignition, and the point made was that if it had not been ignited by this truck, it easily could have been caused by another source, which may be why this report was not included in the Department of Labor statistics.

Mr. Bhalla stated that he had had the opportunity to speak with Don Holstrum, who investigated the BP accident, and he made it very clear that there was no doubt it was a runaway diesel accident. However, because there were so many other BP issues they were trying to address, this incident became a _____ issue, and therefore, it never got reported to the top as it should have been.

The Chairman stated that the recommendations of the committees and the boards in studying the aftermath of that accident was to implement PSM, and it never dealt with the source of ignition.

_____ stated that the point of the report was that if BP had had a PSM program in place, the accident would not have occurred, and they would not have had to worry about 15 deaths.

Ken Dagel from BP stated that the Chemical Safety Board's assessment was that the use of an air intake device was not appropriate.

Mr. Bhalla stated that in the recommendation, the company took the corrective action of installing the air intake shutoff device. Mr. Dagel responded that the investigation report specifically said that

they recommended that this incident would not have been prevented had an air intake valve been installed. He realized that the company later decided on their own to install a device, but the Chemical Safety Board did not advocate that, and it was not included in their recommendations.

Mr. Bhalla stated that he spoke with one of the Chemical Safety Board representatives, who stated their position that there were many other issues to be addressed. Thus, they were not saying that diesel engine safety should not be addressed, but in BP's case there were many other issues.

Mr. Dagel stated that he was not talking about BP.

Mr. Pena expressed concern that, assuming a regulation were in place, the Standards Board would not be able to enact further regulation based just upon their limitations of control. He used the example of the Exxon Mobil Refinery in Torrance, which has a major thoroughfare that splits that facility. He asked how the Board would begin to regulate the unregulated public that has access through that facility right next to operations that potentially could release flammable material.

The Chairman responded that that was the reason they had reviewed the Standards Board's policy of determining whether a proposal is reasonable, and an exception might have to be specified or it may not need to be addressed because there are other standards in place. That is one of the purposes of the advisory committee meeting.

Rick Blaze with the United Steelworkers stated that he has been involved in the refining industry for approximately 36 years, 15 of which were as a process operator and the rest as a representative of people who work in these facilities. He stated that whether the discussion was about vapor clouds at a well head or at a refinery is irrelevant; a vapor cloud is a vapor cloud. He has seen a lot of pumps fail, he has seen leaks, he has seen human error from people using the wrong plan, and he has seen vapor clouds that vehicles have driven into. Employees in the industry have always had it drilled into them that safety is first. If employees know they are going to have vapor clouds and they know of a source of ignition, they should address it. They have always been trained to eliminate the hazards they know. He stated that Mr. Pena raised a good point; there were fatalities in Bakersfield that were traced to an ignition source from a public road, but that is not to say that

the ignition sources inside the plant's fence lines should not be controlled. He stated that if a source of ignition can be controlled, it should be. There are always other sources, but auto manufacturers did not wait to install seat belts until they had perfected air bags. [There was more in this vein, but it was inaudible.]

Mr. Pena stated that he could appreciate the due diligence that has been exercised by the petitioner as well as those speaking in regards to public safety and employee safety, but he is reminded that, as a host employer, there is a responsibility for known situations such as accidental releases of vapors to have some type of safeguard for protecting employees. He cited as an example secondary containment items that prevent that type of release to sources of ignition. He stated that it would seem as though the committee is focusing on not the cause, but a situation that is very conditional to the presence of a vapor. He asked whether the committee should explore why the vapor is being released, which in his view is the issue. He stated that he does not think it appropriate for the contractor to bear the cost of mitigating any exposure.

Mr. Bell (?) responded that the costs and who pays are always open questions, and contractors working in refineries are routinely required by the operating plant to provide various safety devices and safety systems before they are even allowed to come in the gate; they have to demonstrate that they have those systems and devices and the necessary procedures in place to prevent fires and explosions because the refinery operators know for a fact that they will have releases. Secondary containment is good where it can be done, but it cannot always be achieved in refinery with miles of piping and huge process vessels with any number of opportunities for leaks and catastrophic scope spills that really are not amenable to a secondary containment approach.

Mr. Trombettas (?) stated that when the Texas City incident occurred, the PSM offices North and South were asked to look at facility siting and vehicle management. Although there is nor regulation that requires it, companies in the North do not allow any vehicles in a unit, and any vehicle that gets parked outside of a unit gets turned off. When there is a welding truck in a refinery, there is a gas tester that gas tests the area, there is a permit that ensures that safety requirements are in place, and there is a fire watch made up of refinery personnel. He stated that

anything that can be done to make something more safe is a good idea, but he asked whether a regulation for the device is really necessary. He stated that the air intake shutoff device is not the only way to minimize the hazard; that could be achieved administratively and with engineering controls as well.

Jim Thompson with ABS Consulting stated that certainly there are conceivable events like BP, Texas City, or Bakersfield where there can be a flammable release and it gets well out across the public roads, but there is a much higher probability that there will be one close in to the units.

Dave Harrison with Operating Engineers Local 3 stated that employees that work around refineries and manufacturers see this as an issue already, and the concern lies not with the new equipment but with the old diesel engines.

The Chairman asked whether cranes are equipped to meet the proposed standard with an air intake shutoff device. Mr. Harrison responded that the newer ones are, but some of the older models are not.

_____ stated that it is a good marketing program when someone can get government to mandate his or her product. He asked Mr. Bhalla how people are rationalizing not purchasing the shutoff device. Mr. Bhalla responded that that was not the case. He stated that there are a lot of companies that are installing these safety devices on their whole fleet. He stated that the ones that are not putting them on are those who think there is no regulation requiring it.

The Chairman called a recess at _____, and reconvened the meeting at _____.

Mr. Thompson stated that release of hydrocarbons cannot be totally prevented, and existing engineering administrative controls cannot totally ensure that flammable mixtures do not reach the diesel engines. Although mechanical integrity systems and safety systems, attempt to prevent releases, neither method is perfect, and releases do occur. Unprotected diesel engines represent an ignition source that has caused and will cause fires and explosions, although they certainly are not the only cause of ignition. Automatic air intake shutoff valves eliminate this hazard.

The Chairman asked for each participant's comments regarding the necessity for and reasonableness of the proposal.

Mr. Pena stated that, based upon what he had seen, heard, and read to date, Southern California Edison would not be in favor of adopting the language as proposed. He stated that there has not been an incident in California. He stated that the probability of an incident is very low. The existing regulations in the Petroleum Safety Orders already address these issues, and the proof is that there has not been an event in California.

Mr. Bhalla stated that California, by adopting the stationary diesel engine standard, does recognize the hazard, and all of the other agencies recognize the hazard as well, which is why they have standards in place. Engine manufacturers recognize the hazard, which is why they offer these devices, and the multinational oil corporations operating in the U.S. recognize the hazard. The chemistry is the same in both the United States and Europe, and the risk does not change based on location. Finally, a number of incidents are not captured because the data is not available, and based upon Mr. Bhalla's research, there are quite a few misses, not only in California but everywhere. It is just a matter of time until an incident occurs.

Rich Leland of Tesoro _____ Refinery stated that while there is a risk associated with having an ignition source in and around a refining complex, it is a minimal risk. The industry already has significant procedures and policies in place to deal with the risk administratively and through engineering. The documented number of cases referenced by Mr. Bhalla do not seem to justify the additional expense of installing the devices. Everyone wants to improve safety, but the facilities are managing this risk and incidents are not happening at the rate people would like to believe. There are many other ignition sources in a refinery that would be an ignition release before a diesel engine. Thus, Mr. Leland does not see the proposal as viable or cost effective.

John Simmons with Amot agreed with Mr. Bhalla. He recognizes that the PSM process is well implemented and enforced, but he does not feel that that process can fully prevent all releases or hazards, and diesel engines have been identified as an ignition source. The air intake shutoff device can eliminate one ignition source.

Mr. Thompson expressed hesitancy to depend upon very specific accident data to illustrate a hazard, and he stated that perhaps the devices are not needed on all diesel engines. He suggested that the afternoon's discussion could address when and on what kind of engines the device should be installed.

Mr. Dagel stated that BP would not favor the proposal as written, although there is no argument that the intent should be to manage the risks. He stated that the question is whether it is reasonable to manage the risk by prescribing the installation of these devices. There are many other risks associated with diesel engines that would not be addressed by the proposal. He stated that there are other methods to address the risk, and he did not really see the need for a regulation that specifically requires a change in current practices. In addition, he expressed concern about how the proposal would be enforced on public roadways. He stated that it is not uncommon for refineries to be exposed to situations in which a public road runs through them.

Rick Latham with United Steel Workers stated that the USW conducted surveys of its various representative refineries after the Texas City incident, and they were shocked to discover that over 70% of the refineries surveyed had at least three of the conditions that had been present at Texas City. He stated that although he appreciates the PSM regulation and the procedures and practices that are in place to manage the risk, there is no administrative process that will be failsafe. He stated that even the proposal, if adopted as written, would be failsafe. A lot of the releases that he has seen have been small and quickly contained, but there are factors that are not predictable, such as the wind, the type of product being used, or the pressure. If the proposal will eliminate a source of ignition, USW supports it.

Jeremy Smith from the California Labor Federation stated that it is not necessary to wait until there are deaths to adopt a proposal that will reduce a risk, and this is a situation where there have been deaths in other states. Texas City resulted in a $21 million fine from OSHA, a $50 million _____ fine, and $1.6 billion in legal fees. He stated that the Labor Federation believes that safety should always come first, and if something can be done to improve safety, it should be, and not just when something happens, but before it happens. Whenever there is a petition from a

manufacturer of a safety device, there is some suspicion that that manufacturer is just trying to make some money by selling the device, but this is a case in which there is some hard evidence that this safety device would have been likely to prevent an incident.

John Shippinger with Exxon Mobil stated that he disagreed with the proposal as it is currently written. However, some discussion regarding whether it may make sense to have an automatic shutoff device for some diesel engines, depending upon their placement and where they are located within the facility, is warranted. The proposal appears to require a shutoff device for diesel engine that comes within the facility, and that may be too broad.

Walt _____ with Dow Chemical stated that he does not support the proposal as it is currently written, but he agrees that there may be some hazards in some specific areas, and some diesel engines may require some sort of automatic shutoff device. There is a lot of traffic running through some refineries over which the employer has no control, and it is not feasible to require controls on that traffic. However, in areas where there is a high potential of a hazard in an isolated are, a control may be necessary.

Eric _____ with _____ Industries expressed his agreement with other labor representatives, stating that there is a hazard that must be addressed.

The Chairman pointed out that Mr. _____ had arrived with Mr. Bhalla and asked about his relationship with Mr. Bhalla. Mr. _____ responded that _____ Industries is the sister company of Amot.

Russ _____, also with _____ Industries, stated that these kind of debates have now happened in several countries and several provinces within those countries by independent groups of people, and they have been petitioned, by the industry in many cases. There is a whole population around the globe that has been through this process and concluded that there is a need for a safety device. He expressed the opinion that if so many people have adopted the use of the safety device, there is something to be said for that device.

Bob Richards with Kern (?) Oil and Refining Company stated that the device should be discussed and maybe become part of the PSM procedure, but he does not support the proposal as written.

Fred Wrencher (?) with _____ Refining commended Mr. Bhalla for the work he had done on the petition because diesel engine runaway is a hazard. However, it appeared from the Texas City investigation that the PSM procedure had not been implemented, and if it had been, the incident would have been prevented because the cause was not an ignition source, the cause was up front. However, things like this do occur and everyone wants to prevent injuries, and raising awareness of the hazard is important for preventing incidents. The device may or may not be necessary, but employers need to be aware of the risk. He expressed the opinion that more regulation is not necessary, but communication and enforcement of the current regulations is necessary. There already are existing regulations that address the hazard, and those regulations should be enforced. The PSM addresses all hazards, not just a specific one.

Wayne Howard with Valero Refining stated that he does not support the proposal as written, as he sees no value from it. These devices are designed from a risk-based assessment, and more emphasis should be placed on PSM and prevention programs and safe work practices to prevent accidents. The PHA process could be used to assess the incremental risk and determine if there is justification for the installation of an air intake shutoff device, but it should not be driven by regulation.

_____ stated that the refinery industry has advanced, but there is a big separation between work on an offshore rig and work in a refinery. Safety of the employees is important, and if the device can save one life, it is worth having.

Mr. Harrison stated that there is a concern, and although the language as proposed may not be exactly what is needed, the issue bears discussion. He also expressed concern that the Board, on occasion, hesitates to adopt language requiring a specific device, and in this case it appears to be headed in that direction, so he was hesitant to support the Petitioner. He expressed a desire to see market share research demonstrating that the Petitioner is not the only manufacturer offering this device, and how much of the Petitioner's market share is driving the language. However, he does support the idea that there is a hazard that needs to be addressed.

Jim Jacobs of Operating Engineers Local 3 agreed that there is a hazard that needs to be addressed. He stated that he has seen a diesel engine run away twice, and both were in combined cycle power

plants, not refineries. One of the engines had overspeed protection on it, and it was a new, European crane. The crew started it back up and went back to work. The other engine did not have overspeed protection, and the block had windows in it; the engine destroyed itself. Both incidents were extremely scary, and Mr. Jacobs expressed the opinion that diesel engines should have overspeed protection.

Dennis Cole with Western States Petroleum Association stated that the record does not support the proposal. He respects the position that anything that can be done to improve safety should be done, but his role is to view government with a skeptical eye. The fundamentals of the petroleum business are the protection of their people, the public, and their plan. If they do not do that, they cannot do their business. The only way to really do that is to keep it in the pipe. There are innumerable sources of ignition in petroleum refinement, and the question is whether it is one more layer of protection or one more layer of government. Is adding one more regulation to the Petroleum Safety Orders taking the eye off the ball of the real objective of keeping it in the pipe. The record does demonstrate that mitigation of this risk in petroleum refineries has been exemplary, as has the progress of process safety in this state. That is a public-private partnership; it is a partnership with labor; it is a partnership with communities through the CalArt programs. We are all in this together, and we need to be working on the right risks and the right mitigations. Though this risk may prove to be one, this is not the place or the approach to do it. There are eyes on this at a national level, and this should be dealt with in a holistic way. This kind of piecemeal approach is not the right one to address this issue. The approach should be through a standard-setting method that approaches the manufacturers, retrofits, and all necessary industries on a national level.

Jessica Weatherford of DCI Construction stated that she takes safety as the number one priority. However, it is her belief that everyone should work on a daily basis with refineries and managers to ensure that the process protects everyone from issues and prevent accidents from happening. There are innumerable sources of ignition at a refinery site, and it is not necessarily reasonable to address only one source. She stated that different language may be necessary, for instance limiting the device to diesel engines in certain areas of the refinery, but as the proposal is written, it is unreasonable.

Vincent Moore of DCI Construction stated that safety has progressed tremendously in multiple facilities in the 28 years he has been in the construction industry, and the fact that PSM is now in place ensures that there is a specific plan for a worksite. There is a joint venture visit in which the operators and the managers visit the site, and only specific pieces of equipment are allowed in the area. During planned shutdowns, when there is a specific plan, everything is where it belongs and there is less hazard. He stated that are many more ignition sources than just diesel engines, and because those sources are more common than diesel runaway, they should be given priority over diesel engine runaway. Those other sources of ignition are there all the time, whereas diesel runaway happens only occasionally.

Ben Sloan of Chevron El Segundo stated that safety has always been number one at Chevron, and they enforce that regularly. There has been a lot of discussion regarding Texas BP, and that is a very unfair parallel for refining in California. The incident report for that event indicated that the problem was in the procedures, not the source of ignition. Also, they had an open-stop flare (?), and there is not a refinery in California that has one of those. There are no parallels between Texas BP and refining in California.

Mr. Sloan stated that there is a fire and safety group in the California refinery business that keeps statistics and records on everything that happens in both the Chevron refinery and its competitors' refineries. Although this industry is very protective of its patented processes, it is very open to sharing of ideas when it comes to safety through avenues such as WISTA (?), ATI, NACE, etc.

Mr. Sloan went on to express uncertainty as to how aware outside industry is of how much refining has changed in California since the BP incident. California refineries no longer have any sort of offices close to operating plants, for instance. There is nobody in the plant when it is started up except the operators that need to be there, and there are procedures in place to prevent unauthorized people from being in the area. There are also procedures in place so that if there is some kind of ignition, it can be contained.

Mr. Sloan then addressed the idea of a vapor cloud, stating that he currently has steel workers erecting steel in a live unit, which is a vacuum column. There is no way of creating a vapor cloud in that vacuum column, but there is a fire watch, and there is a safety meeting every day with all of the workers to ensure they know where all of the hazards are in the plant.

In the state of California, there is the Process Safety Management program managed by Clyde Trombettas of the Division. When paragraph _____ came out, Mr. Sloan was the head equipment specialist, so it was his job to put plans in place to write procedures for protecting the equipment. There has to be an explanation for leaks, and there have to be procedures in place to deal with them. If Chevron sees that one of their competitors has a leak, it checks its records to see if the same thing could happen at the Chevron facility. There is constant communication and review and the hazop analysis. Chevron has moved all of its emergency fire pumps outside the operating area, so it would not do any good to have an air intake shutoff device on that engine because it is nowhere near anything that would make vapors that ignite.

Mr. Sloan closed by stating that although this air intake shutoff device is in use in Canada and in Europe, the consequences of requiring the installation of this device must be examined before enacting a regulation in California, and Chevron would not support the proposal as currently written.

Mike _____ of the Division stated that California refinery safety is very good. He also stated that this regulation may not be necessary, and it may actually be duplicative.

Mr. Bell stated that he has not heard a lot of objection to having this standard, but there is a question of scope. He stated that there are two types of standards: performance standards and specification standards. Performance standards state that something needs to be done, but do not indicate how it is to be done. Specification standards not only state that something needs to be done but they also detail how it is to be done.

The Chairman adjourned for lunch at _____ and reconvened the meeting at 1:30 p.m.

The Chairman stated that the reason for the meeting today is for the advisory committee to come to a consensus, and one thing everyone can agree on is that diesel engines are a hazard and can cause problems, including runaway problems. Now the committee must examine what is available, keeping in mind the need to ensure that the standard is reasonable, necessary, and nonduplicative. He stated that the PSM standard addresses these hazards in a general fashion—if there is a hazard, it must be addressed. If there are several acceptable methods of addressing that hazard, the employer can decide which method to employ, as long as that hazard has been addressed. If nothing can address the hazard of a runaway engine except the air intake shutoff device, then that device should be on the diesel engine, or it is a citable offense. Part of the reason for the citation is that there is a hazard that is not being addressed. The performance standard under the PSM standards addresses this hazard.

The Board has a requirement that if we can address a hazard with a performance standard, we should do so. If there is no other way to deal with a hazard but a prescriptive standard, then a specific vertical standard is necessary. However, if there is a horizontal standard that provides a variety of solutions to a problem, that must be provided for the industry, as long as the industry addresses the hazard. If the Board discovers that there is a problem for which the vertical standard is not working, then a solution must be found. Thus, the committee must review whether the PSM standard is working to control the diesel engine hazard, and if it is not, then a vertical standard is needed. The necessity of a standard, unfortunately, is often borne out by injuries and accidents, so any standard promulgated must be supported by accident data, injury data, or data on near misses. There is no available data to support the promulgation of this standard; it appears that the hazard is covered by the PSM standard. If there is an unattended diesel engine that is possibly exposed to explosive flammable fumes, then the air intake shutoff device must be on the engine. The question for the advisory committee, then, is whether or not this standard is necessary. If the advisory committee does not have a consensus as to whether the standard is necessary, then it cannot continue.

Rick Latham asked how many Cal-OSHA has written for diesel engines that are not protected. Mr. Trombettas responded that the Division has not seen any violations in Northern California.

Mr. Bell indicated that there is no specific regulation to cite, stating that if he were to go to any of the refineries today, he could probably find an instance of a situation that may be in violation if that standard existed, but the standards do not exist just for Cal-OSHA to write citations; they exist to make the regulated industries aware of potential problems and given them tools to react to those problems.

PSM is a broadly-written performance standard that deals with procedures; it does not address specific engineering controls, and it is open to broad interpretation. It was written that way with a purpose in mind because it is difficult to identify all of the conceivable hazards that may arise in any given process industry, let alone all process industries. He stated that it may not matter whether a diesel engine is attended or unattended. In the event that the diesel engine is enveloped in a flammable vapor release, it would be better if it were not attended, especially if it is uncontrolled. When the runaway occurs, and it can happen very rapidly, there will be a fire or an explosion, and whether or not the diesel disintegrates and the parts become shrapnel is another question. Thus the question is whether the hazard is effectively controlled by process safety management standards, and arguably, it could be, if in fact it is probably identified.

Most of the refiners have taken lessons to heart from the experiences in Texas and elsewhere. He asked whether it is reasonable to require an automatic shutoff device on a diesel engine that is running away in a circumstance where there are light plants, generators, and air compressors running that are unattended. Even if there is a fire watch guy standing there, his ability to respond in the event that there is a sudden and substantial release is open to question, and the best response might be to run.

Mr. Bhalla stated that according to his data, it takes 15 seconds for a diesel engine to blow up once it goes into a runaway condition.

Mr. Bell continued that there is probably a question of scope in everyone's mind. Most of the commenters have stated that as currently written the standard is kind of nebulous, and it is difficult to comprehend a standard applying to all diesel engines. Perhaps addressing the scope of the

standard and making it more specific might be a better approach. He also stated that he his open to hearing, also, how many manufacturers are offering an air intake shutoff device and for what kinds of power plants.

Mr. Bhalla stated that manufacturers want to put a safety device on its engine because the manufacturer does not want the liability. So, the need comes from the manufacturers, and some of the engine manufacturers, such as Cat or Detroit Legal, have developed their own shutoff devices. In addition to that, there are about seven or eight other manufacturers around the world who make these safety devices.

Mr. Bell asked whether all manufacturers of the safety device market in the U.S. Mr. Bhalla responded affirmatively, stating that this is not a multi-billion dollar industry, the market for these devices ranges from $40 to $60 million distributed among seven or eight companies, not including the engine manufacturers that manufacture and install these devices on their own engines.

Mr. Dagel stated that he would question the driver for the engine manufacturers whether it was _____. He stated that for the most part, the manufacturers do not know in what kind of environment their engine is going to placed. He expressed doubt that they were installing the devices only on diesel engines to be used in a refinery or petrochemical plant.

Mr. Bhalla stated that the engine manufacturers read the specifications and only offer the air intake shutoff device option when the engines are going into hazardous areas such as oil and gas, offshore, mining, and explosive dust. They offer the device to purchasers of engines going into these environments in addition to emergency rescue vehicle engines. They offer these devices not only to avoid liability, but also to protect the refineries. Thus, the manufacturers do not offer them on every engine, only those that are going to be in a hazardous environment.

Mr. Dagel stated that that distinction is the key—the device is offered when the customer asks for it.

Mr. _____ stated that all of the engine manufacturers, whether they are purchasing the product or manufacturing them on their own, they have all consistently concluded (?) on their own

solution, which is to block the air in some fashion. There are different technologies to lock the air at the intake, but they are blocking the air and shutting down the engine in the environment where it is exposed to flammable vapors. Therefore, from technology standpoint and a solution standpoint, these manufacturers around the world have all included independently or through learning from each other have chosen to manufacture or procure these safety devices.

Mr. Bhalla stated that the ASME Conference published a paper in which they analyzed the engines. That report clearly stated that with all varieties of diesel engines, the common denominator is combustion air. Diesels have a multitude of fuel control schemes but utilize air the same way. Therefore, controlling combustion air is a key to absolute engine control during an emergency.

Mr. Dagel stated that he was not _____ the technology. He agreed that it does not _____ application of the technology, but it does not need to apply across the board to every diesel engine that comes out of the shop. He stated that the device is an appropriate application for some, and he uses it in his business as well.

Mr. _____ expressed concern that there already is a regulation in place. Not only that, but the data is from a mixture of industries focused on refineries, and he has not yet seen any proof that it happens in refineries. Refineries have a PSM process already in place; production plants do not have that regulation to help them overcome these obstacles.

The Chairman stated that the data demonstrated that there are no reported accidents in refineries in California. Thus, necessity cannot be based on necessity, so the committee must examine whether it is reasonable to assume that the PSM standard in California and not working in other areas, particularly Texas and why it is not working there.

Mr. _____ responded that he understands the Chairman's point. He stated that the Texas incident occurred because the PSM program was not followed. He stated that the key issue for California is prevention. The fact that some of the refineries are 80 or more years old means that the mechanical integrity process, which is part of the PSM process, needs to be beefed up. If an employer is not doing that, it does not matter what laws are in existence. Laws do not prevent

incidents from taking place, it is people doing the right things, and if there is a guidance to do things right and correctly, and the employer follows that guidance, there will not be an incident. He expressed the opinion that there is more of an enforcement and communication issue than a need to implement a new regulation.

Mr. Latham stated that until somebody can tell him that they will not have a pump seal fail or an exchange of energy or any of the other things that can happen, the industry does a very good job of preventing such things, but not all of those things can be prevented. The industry is going to continue to have releases, and there are going to be vehicles, so it is not a question of whether or not it predominantly happens in power fields or production fields or the reason that it has not happened is because process safety management has not happened in refineries. Process safety management goes a long way, but in this business, you cannot cover all the bases. Here is a situation where you know you are going to have releases, you know there is a hazard that some of it is mobile, and you cannot predict which way the wind is going to blow. You could have one unit shut down and very safe, do everything by the numbers, including the _____ tests, the standbys, and everything else, and somebody moves his equipment on the adjacent _____ that is running. It may find another ignition source if it does not find the diesel, but if the diesel is the first one it finds, and that diesel shuts down rather than ignites, you may have bought some time to resolve the issue.

Mr. Thompson asked how a process for dealing with diesel engine runaway would ever get into his hazop, if he did not know the risk existed. He stated that he supported the option of requiring vehicle engines to operate some distance from equipment containing flammables. If the vehicle or engine is going to be within 50 to 100 feet there should be an automatic shutoff or have the equipment attended. The continuous fire watch is an alternative, rather than having the meter response or the operator trying to decide whether or not to hit the manual shutoff. It would be helpful to provide some connection to the PSM standard in California if there is language going forward, the PHA should consider this ignition hazard and the controls thereof.

Mr. Sloan stated that risks applicable to petrochemical or chemical plants are much different than those for refining. He stated that some of the examples used, such as opening leaders in the middle of the night while a diesel engine across the way is running, were not applicable to refineries. He stated that if there is a light stand being powered by a diesel engine, it is because there is work going on and there are people there. Refineries are sure to keep things separate between an operating and a nonoperating plant. There are cases where some plants are close together, and one may be shut down while the other is running, but those factors are taken into account when they do the planning and when deciding where to place equipment. There are windsocks atop the wall on a tall column so they know which way the wind is blowing. He can prevent this hazard through procedures rather than having to decide which diesel engine is going to need an automatic shutoff device.

Mr. Pena stated that the scope and application are too broad.

Mr. Trombettas stated that as regulators, the Division's mission is worker health and safety. He stated that the question is whether this device is going to save an employee's life in the case of an override and whether the current regulation, where employers have to address the hazard in one way or another, is enough, or whether should it be more specific to the point that employers can only use this device. He stated that he can enforce the existing regulation either way—whether it regulation remains as currently written or if it is made more specific.

Mr. Harrison suggested that the proposal be written to require that all diesel engines manufactured after a stated date must be equipped with an intake shutoff device.

The Chairman responded that such a provision could be written into the proposal, but the committee must still be able to show necessity today. The question is going to be what is currently in place, and it appears that the existing regulation is effective in addressing the hazard because it requires the automatic shutoff device to be used if nothing else works.

Mr. Bhalla stated that the process of modernization of older refineries often involves thousands of contractors working with their engines running at a given time, which is a very high risk. Recently there was a crane runaway.

Mr. Sloan responded that those thousands of contractors working to modernize the refinery are nowhere near any source of vapor clouds. There is a big difference between when they are in an area where there is a vapor cloud and when they are in an area that is more than 25 yards away. They have a tent there, they have safety meetings, they know the plants around there are closely watched, but none of that equipment is back where the refinery operations are actually occurring. He stated that the employer has to determine where the highest risk is and concentrate his prevention efforts in that area. That is all weighed out when putting together the PSM.

Mr. _____ stated that the runaway crane reference by Mr. Bhalla happened at the Richmond refinery, and it stopped running away when the changed. He asked Mr. Bhalla who had notified him of that incident. Mr. Bhalla responded that it was the security/safety representative from the Richmond refinery.

Mr. _____ stated that he does not dispute that there must be safeguards in place. However, the issue is whether the hazard is already regularly controlled, and there are regulations that cover this hazard. Having another law that addresses a hazard that is already covered by an existing regulation does not make sense.

Mr. _____ asked Mr. Trombettas and Mr. Bell about how they would determine whether or not the oil refineries are in compliance with the current, existing standard. Mr. _____ stated that he could go to Mr. Leland's refinery at Tesoro (for instance) and ask Mr. Leland to show him the PHA for the hydro_____ units and ask him what he would do in the case of a diesel runaway. If he could not demonstrate that the hazard had been considered and addressed, Mr. Leland would be issued a citation and be mandated to fix the problem. One of the things that is different about California is that the Division's district managers are very proactive. When something like Texas City happens, Mr. _____ will go out and ask refinery managers whether they have considered a particular hazard and how to address it.

Mr. _____ stated that one of the things that surprised him at the Safety Conference in Houston last week was that there was a presentation about the runaway diesel hazard. He stated

that he had rank and file health and safety people at the Conference, and they all realized that they had never considered that hazard.

Mr. Howard stated that he agreed about being able to work with Division personnel to address particular hazards.

Mr. Sadat (?) stated that if the current standard is enforceable as it exists, nothing is really lost by putting in a clearly identified solution. If there are multiple solutions for the same hazard, those solutions should enumerated in the standard.

Mr. Pena stated that it appeared to him that there is a general agreement among the committee members that some of the issues under discussion are covered in existing regulations, and it appears to be more of a consultation issue than a necessity for a new regulation.

The Chairman asked the Division whether there was expertise within the Consultation unit to provide help to employers. Mr. _____ indicated that he is the consultant for this industry.

Mr. Bell stated that on any given day, across all of the refineries, there are a multitude of different operations taking place, and every one of these refineries has everything from an electrician driving in to rewire a light to a major outage or a new process plant being built with thousands of workers on the plant in addition to the operating crew. As much as he would like to believe that PSM covers everything, he knows from his own personal experience and years of working in refineries that it is not practical to have a safety operator attending every welder, every light plant, every compressor, etc. Although the Division can try to cite, and the employer can pay attention to where the equipment is placed and which direction the wind sock is blowing, the release can occur.

Mr. Pena asked whether the scope and application states that if an employer cannot do it, then that employer must prove that it is not obtainable. If an employer says that he cannot attend every hazard, there has to be some type of rationale as to why they cannot, and there has to be some type of dialogue that is acceptable.

Mr. Bell stated that that is just a reality of the workplace. If the contractor comes in and sets up and all of these guys do everything reasonable and foreseeable to plan that work and to safeguard

from the start, before the contractors even come in the gate, because they know they have a serious risk, but when the guy actually gets out there with his pickup truck and drives the compressor over and parks it, unless he has a safety operator standing there to tell him where to park it, he really has no control on where that thing lands. He stated that as a safety professional in a refinery, a large part of his day was spent going around trying to keep people from doing things that he had already told them they were not supposed to do.

Mr. Pena asked how the proposed regulation would be enforced in the event that something happens. It does not have to be a major event, it could be something that requires first response, whether it is a utility, an ambulatory service, etc. He asked whether emergency responders would be required at the front gate because they cannot come onto the refinery grounds because they do not have the automatic shutoff device. Mr. Bell responded that the point goes to scope—the concept of all diesel engines is extremely broad, and he does not believe that all of the accidents for which there is data ranging over all of the states and elsewhere justify that all diesel engines should have the shutoff device. Some measure of reasonableness needs to be explored. He stated that he believes there is a necessity for a new regulation, but the question is how far that necessity extends.

He further stated that we do not need to limit our thinking to just what happens inside California's boundaries; history tells us that borders change from time to time. In addition, contractors come here from other states that are utterly ignorant of Cal-OSHA's regulations. If the regulation provides some guidance to the industry saying that in certain, defined circumstances, diesel engines need to have certain, specific controls. Beyond that, safety managers and engineers can go out and look at their PHAs and hazops analysis and make a decision about whether or not those things are being effectively controlled in that manner, and it does not leave the employer worrying about any diesel engine that happens to show up in the refinery. In some respects, it is to the employers' benefit to define the scope of the regulation. Mr. Bell also stated that if we were to go back and examine the PHAs and hazops, we would find that in large part, diesel engines were not even considered.

Mr. Bhalla stated that that was the reason for the chart assembled with input from Chevron, BP, Valero, and other refineries.

Mr. Cole stated that he has been in three meetings with the statewide PSM _____, the first being after the BP incident, and they reviewed the issue, particularly about a building site and about the runaway diesel engines. There was a follow-up meeting, in which they shared best practices and ideas, and the last meeting was last month. There have been communications within the industry, and he knows that accidents happen, and that Valero has a labor-management safety committee that is hosted by the hazardous materials division of the company, and the CSV has made a presentation on these issue. Action and attention have been applied to this issue. We can go back and examine these steps, but nobody has demonstrated that there is a sentence that can describe what is right and what is going too far. We know that there are potential hazards and we know that there are levels of litigation, and the level of the hazard and the level of the mitigation need to be married up and not create a one-size-fits-all standard. Nobody wants anybody to get hurt, and nobody wants a diesel running away, setting off a cloud that should not have been released in the first place. The issue is hazard identification and mitigation at an appropriate level.

The Chairman asked how many of the advisory committee members consider the PSM standard to cover diesel engines within refineries appropriately. After a show of hands, the Chairman concluded that there was a consensus that the PSM standard is adequate.

Mr. Smith disagreed with the Chairman's assessment. The Chairman responded that it was not 100% consensus, but the majority of the attendees agreed.

Mr. Cole stated that there is a lack of consensus, depending upon the point of view, whether it is labor or management.

The Chairman stated that this was not about the rulemaking; this was just about the PSM. He stated that a lot of the advisory committee members felt that the PSM standard is effective. He asked whether the PSM standard is effective because we are not seeing accidents, or whether it is because it is preventing accidents.

Ms. Weatherford asked whether the Consultation unit could work with employers to improve adherence to the PSM standard. Mr. Bell responded that PSM is a specialty area. Mr. Trombettas

and his group have a limited number of people who are responsible for administering the PSM standard for the Cal-OSHA program, so it is doubtful.

The Chairman stated that an employer can always request help from the Consultation unit, but Mr. Bell indicated that Consultation would most likely refer the employer back to Mr. Trombettas or Jim Riley in Southern California, because they are the specialty guys who understand the PSM standard as it has been manifest under the Cal-OSHA program.

The Chairman stated that the Division issues publications, and Consultation, in conjunction with PSM, could create either a publication or an online program explaining how to implement the PSM.

Ms. Weatherford suggested that before mandating an automatic shutoff device, perhaps such a program would be beneficial. Mr. Bell responded that even if the standard does not go to rulemaking, and we assume, based on good faith, that everyone is go back to their refineries and performed a detailed analysis of their program and determine where the shutoff devices need to be installed, there is no safeguard that contractors are not going to have to install these devices on some of their equipment.

The Chairman stated that employers would then have to address the hazard and what to do if there is an emergency situation.

Mr. Bell expressed concern that a contractor, who travels from plant to plant, would be likely to ask where in the regulations it states that he is required to install an automatic shutoff device.

Mr. _____ stated that when a contractor goes onto a site, they receive a list of PSM equipment, and they must have that equipment to perform the work.

Mr. Thompson asked whether Cal-OSHA has the ability to do compliance directives to their inspectors to pay particular attention to the need for these devices. Mr. Bell responded that the Division cannot do compliance directives, as they would be considered underground rulemakings.

The Chairman stated that an employer could write a letter to Research and Standards, asking them a specific question applying to a specific scenario. Mr. Bell stated that employers could write to him or to his counterpart in Southern California, and they would provide an answer based on their understanding of what the regulations require. He reiterated that it would have to be specific to a

set of circumstances; they could not write general guidelines that would function as underground rulemaking documents telling employers how to enforce the standard.

Mr. Thompson asked whether that would be the equivalent of a national OSHA letter of interpretation. Mr. Bell responded that the Division will do interpretation letters in response to a specific question; if an employer presents a particular scenario, the Division can tell that employer how the standard would apply in that scenario, but they cannot provide general, broad instructions on standards because the California Administrative Procedures Act would define that as an underground regulation.

Mr. Leland stated that he is still struggling with the need and the cause and effect of this process. He understands that there is an identified hazard that there is a potential of having a release of flammable product and it reaching an ignition source in the form of a runaway diesel engine and causing an explosion or fire. He stated that in the safety profession, causal factors are identified to address the end result that you do not want to have happen. It seems to him that despite what Mr. Bhalla has claimed, in California it seems to be under control, whether it is through the PSM standard or the way that ignition sources in process areas are handled. He is still struggling to see the need for the regulation. The industry and safety professionals have a pretty good system for sharing information about incidents and situations that occur. He stated that there does not seem to be a trend. Cal-OSHA and the regulated community are responsible for identifying the areas of significant hazards that must be addressed that are not already being addressed adequately. He stated that, in his opinion, that need does not exist in this case. He stated that incidents have occurred in states other than California, and there was hearsay that there was a near-miss at Chevron, but we do not know whether the diesel engine that ran away was in a vapor cloud. We need to ask whether there are the number of incidents happening that warrant a significant impact to the people that will be affected by a proposed rulemaking. The time and energy put into determining whether this regulation is even necessary could be used to address other, more prevalent hazards.

The Chairman stated that when specific standards are required, the necessity for those standards must be demonstrated to apply in every case. In this case, there may be situations where it is really warranted to have this protection on a diesel engine, but in other cases it may not be, and it is not reasonable to extend this particular vertical standard to this other piece of equipment. Thus, the standard cannot be written in that way. The question is whether the committee can write a scope that is specific enough to include just the equipment that needs to be regulate. To have a performance standard in place is the answer in most cases, because a result is required more than requiring a specific kind of equipment to be protected irrespective of the conditions within the atmosphere surrounding that regulated piece of equipment. Often a performance standard meets the need of a requirement to address hazards that are very hard to qualify or write a scope for. He stated that it appears that PSM was well thought out. He is not an expert on PSM, but after listening to Mr. Trombettas and having performed research on PSM in preparation for the advisory committee meeting, it seems to cover this piece of equipment, especially where it is very difficult to scope out, and it makes health and safety in these diverse environments possible. The only way these places of employment can maintain a reasonable level of health and safety through general requirements that require a person, several people, and/or employees to come together and determine whether a hazard exists and address it in a specific way and another piece of equipment five feet away, very similar, is going to have a different answer to that question. That is where a performance standard is ideal, and that appears to be what the committee is toying with. They are trying to deal with an environment that is diverse and very difficult to regulate with a vertical standard that would require specific equipment, because it could end up not regulating items that should be regulated and regulating equipment that really does not need it.

Mr. Bell concurred with the Chairman, stating the if it were a question of reasonableness, the standard could be written as a performance standard to require the device when it is appropriate, which is not that difficult. That leaves it up to the members of the advisory committee to determine when it is appropriate when those other administrative measures might be applicable.

Mr. _____ asked whether there is a way to communicate the PSM standard to those that may not be aware of it, because it appears that the PSM standard covers the hazard, but

it appears that it is not recognized by everyone that needs to recognize it. He asked whether it would be appropriate to let employers know that the advisory committee determined that diesel engines have an inherent problem, they can explode, or they can be an ignition source, and that needs to be included in refineries' PHAs, and the Division will be performing audits in which they will determine whether this hazard has been addressed.

Mr. Trombettas stated that he has already done that with the refineries in Northern California, so he expects to see some method for dealing with diesel runaway in the PHAs, but he was unsure whether his counterpart in Southern California had done the same.

Mr. Howard stated that they have PSM forums with the major refineries in California where that message can be relayed to those who have not yet received it; there are mechanisms to convey the PSM compliance division's expectation on this process.

Mr. Bell stated that maybe the refinery standards are not really the right place for the rule in the first place; maybe it belongs over in General Industry where there are other industries besides refineries that might have this problem as well.

Mr. _____ stated that he had spoken to a number of vacuum truck rental companies and manufacturers a couple of weeks previously, and not one owner of these companies was aware of this hazard or had the automatic shutoff devices installed on their equipment; there were a few random superintendents that had installed it because they had been turned away at refineries. He stated that if it is not even on vacuum trucks, there is a problem. He stated that the committee should really start scoping the regulation out and understanding where it should apply. They should look at the scope and certain timelines.

Mr. _____ asked what other countries have committed to using this device and whether they have the same level of PSM standards that California does. He also asked whether their numbers of releases and vapor clouds are near what California has. He stated that he has talked with other people who work in other countries, and there is stuff coming out of their refineries in amounts that would not be tolerated in California, and their operating procedures, training

procedures, and the general way in which they run those refineries is significantly below California's standards. Therefore, to make the comparison that other countries have decided to put this device on their diesel engines because they have that many releases does not substantiated doing the same thing in California. We have systems in place and a higher level of oversight than other countries, and to use those countries as a basis for a regulation in California is disingenuous.

Mr. Bhalla stated that his gathered his information from the same multinational oil and gas companies that are operating in California.

Mr. _____ stated that he understood that, but regulations vary from state to state within the United States and from county to county. Contra Costa County is more highly regulated than Southern California, and they are under higher standards. However, the operational standards in Texas are not as high as those in California, which is known by its standards. There are fewer releases in California; he suggested that of the 2,180 releases that Mr. Bhalla stated were reported to the NRC, he would guess that 95% or more of them were less than a gallon or less than a barrel at the very most. He stated that his point that using numbers demonstrating an excessive number of releases in other locations that demand having these devices do not substantiate the need for a regulation in California.

The Chairman asked for a show of hands of how many would be interested in scoping a requirement like this to specific diesel engines and what those diesel engines would be.

Mr. _____ stated that it is not a matter of what kind of diesel engine it is, but more of the environment in which the engine is being used. There are certain parameters that are covered when the diesel engine is brought into the refinery, such as hot work permits, fire watches, etc., in which you need to control any engine, not just diesel engines. When talking about the scope of the regulation, it is important to determine where the diesel engine is going to be, the services it is performing, and whether it is attended or unattended. A diesel-driven welding truck that is driving a diesel-powered welding machine or a diesel truck that is being driven in is probably not going to stay running while there is something going on, but that diesel-driven welding machine may be running while it is unattended, and it is those kind of things where it might make sense to have some sort of auto-shutoff device installed.

The Chairman asked whether Mr. _____ felt that that situation was not covered by the PSM standard. Mr. _____ responded that on some of those cases where there are temporary pieces of equipment brought in, it may not cover the entire scope, but a large majority of all sources of ignition, which include diesel engines, are covered in the PSM standard.

The Chairman asked whether the small percentage of ignition sources not covered by the PSM standard should be covered by it or whether there should be a separate regulation. Mr. _____ responded that he did not know if it is possible to cover every single piece of equipment that may or may not come into process units or turnaround areas.

Mr. (Mike) _____ (Division) stated that construction in a refinery is not covered by the PSM standard, so if the rulemaking is to go forward it should be in the Construction Safety Orders and the General Industry Safety Orders as well as the Petroleum Safety Orders, where it would be more effective. There are areas of refineries that are not covered under PSM where there is just the same type of construction.

Mr. Trombettas stated that there could be new construction inside of the process train where there are operating plants all around, and there are outages, and all of that equipment is not covered by PSM.

The Chairman asked whether that was true even if equipment is driving right past a process unit. Mr. Trombettas responded affirmatively.

Mr. Cole stated that it is because the EPA regulations incorporate that PSM standard, so they are held to the same standard because they are subject to off-site ignition risk in the same way, so it is not a matter of being exempt from any law, it is just that it might be another agency writing the citation.

Mr. Sloan stated that he continues to be confused. He works for a company that wants to maintain health and safety, which is his number one priority in being here, but if he brings in a welder from Texas and another from New Mexico and they both start up their welding rigs, one having diesel and one having gasoline, and they are both right next to each other, but one is regulated and one is

not. What he does not understand is if it talks about minimizing the consequences of catastrophic _____ employers, that can be taken two ways. It can mean that either you spin an employer's effort to minimize the potential source or concentrate on having no sources of ignition in the plant.

Mr. Thompson stated that he really agrees that the regulation ought to be broader than just providing it. He stated that the PHA, like federal OSHA, says that you look at engineering and administrative controls like hazards and interrelationships and then this is one of the few cases where it goes such as appropriate applications _____ methodologies to provide early warning of releases, and there is a parenthetical stating that acceptable protection methods might include process monitoring, control instrumentation, alarms, and detection hardware such as hydrocarbon sensors.

The Chairman stated that the discussion was too broad. The Board had directed staff to look at refinery situations and examine the possibility of requiring this safety device. He asked whether there was a consensus to go forward and scope the regulation down to a specific set of diesel engines in different environments. He then asked how many felt that the rulemaking would make no difference to the health and safety of Californians, and it is not reasonable to require the device. He clarified that the group was discussing only that activity that is governed by Subchapter 15. After a show-of-hands vote, the Chairman stated that it appears that there is no consensus either way. If a consensus to go forward is not reached, the regulations and the PSM standard would remain unchanged. He stated that he had the impression that there would never be a consensus to promulgate this standard. We could look at a different time with a whole different group of people and a broader requirement within the General Industry Safety Orders, but we do not have the right people here for that; we only have refinery people for this, and that is all we are looking at at this point.

Mr. Wrencher (?) asked whether simply raising awareness of diesel engines as an ignition source is a possibility. He stated that the whole purpose of the advisory committee meeting is to save lives.

The Chairman responded that if nothing else comes from this, and it appears that that is where it is heading, the committee members have been made aware, if they were not already, of the hazard of diesel engines runaway. They have been made aware of how the accidents happen and how ignition sources affect the spills and the releases and can now address it, if they have not already, in their PSM program.

Mr. Trombettas stated that he could work through Mr. Cole, because he has contact with everybody, and they could work up some information. He could also work through Steve Sullivan to get information out to all of USW.

Mr. Wrencher stated that this group knows about the hazard, but there are a lot of people who do not.

Mr. Bell stated that this is not a newly-discovered hazard; in the literature supporting the development of the auto cycle there are long discussions of this as a hazard.

The Chairman asked whether there were any other comments, stating that the committee was leaning toward one that could not reach a consensus on going forward with the rulemaking.

Mr. _____ asked how many other states have adopted a similar regulation, and if other states have not adopted it, why did Mr. Bhalla come to California first instead of Texas.

Mr. Bhalla responded that he had started his research because he was getting a lot of calls from engine manufacturers about how to protect diesel engines. He got in touch with California Congressman George Miller's office because he handles all the safety issues, and he suggested starting with California before going back to federal OSHA. He stated that California is a progressive state when it comes to safety, it has a large number of refineries, and federal OSHA is an organization that worries primarily about citations and compliance whereas California OSHA is more focused on developing new standards that improve safety.

Mr. _____ pointed out that Mr. Bhalla's data had listed refinery accidents versus oil drill accidents, and there is only one refinery accident in the state of Texas, and the rest are oil well fires. Mr. Bhalla responded that he had also included the Occidental accident in Bakersfield, and they had two or three near-misses recently.

The Chairman stated that the reason they had included the oil well fires was to show that there really were not any refinery accidents in California. The data from the Division related only to oil well fires, which just shows that within refineries there have been no reported incidents.

After some general discussion about what did and did not constitute consensus, in which opinions were split among labor and management, Mr. _____ asked whether the committee was constrained by the Board's petition decision. The Chairman responded that he would report to the Board that the committee could not reach a consensus to go forward and recommend for them to terminate further rulemaking activity. He stated that that is the problem when there is no consensus. If most labor and most management sign on, then one could say there is a consensus.

Mr. Parenti asked how many people were represented by the labor representatives. Mr. Harrison responded that he and Mr. Jacobs represent over 40,000 members of Operating Engineers Local 3, including a large number that perform construction and maintenance work in refineries, and they are in support of a standard. They would also be open to negotiation to talk about some alternative language.

Mr. _____ stated that the advisory committee was called together to see if this went towards the refinery industry, they had started discussing it 30 minutes after the meeting started, and they were still talking about it several hours later.

The Chairman responded that the aim of advisory committee meetings is to make sure everybody gets a chance to express themselves and to see if there is any way to reach a consensus to make it slightly different and/or to change the scope of the proposed regulation.

Mr. _____ stated that, based on the day's discussion, it appeared that most of the attendees thought it was applicable to more than just refineries.

The Chairman stated that in that case, they would need to petition the Board to look at the General Industry Safety Orders and see if there are accidents, problems, or incidents associated with diesel

engines and runaways, which would be even more difficult than today's meeting. If, however, there are lots of accidents in one area, a vertical standard for that area is justified.

Mr. Bhalla asked whether he should present the cost estimates. The Chairman responded that he was unsure that cost is an issue in this case. He stated that it would be an approximate cost ranging from $400 for small engines to $3000 for larger engines, and he had heard other people state that the cost was even higher. Mr. Bhalla stated that was an accurate range, but that the total cost for refineries is very small, and then you have the contractors' costs on top of that. He stated that if there is just one small incident, the cost is justified.

Mr. _____ asked whether there is one part of the refinery operation on which everyone could agree is considered a hazardous area and must have some protection in order to prevent the diesel engines from running away. He stated that if the advisory committee could not agree on even that, then they should call it a day.

The Chairman responded that that had already been addressed, and the committee had decided that PSM covers that. He stated that he felt he could safely say that consensus had not been reached, thanked everyone for their input, and asked if there were any other comments.

Mr. Jacobs stated that the best example of a specific area in which there would be a hazard in a refinery is rig welders (?). The pickup trucks are parked and shut off; the light stands might be an issue; but rig welders that are 300 feet away would probably be the biggest issue. If the committee were to pinpoint one issue, that would be it.

The Chairman stated that it had been determined that PSM covered that. Mr. Trombettas disagreed.

Mr. _____ stated although the welders might be 300 feet from an operating piece of equipment, his facility has a very strict fire watch requirement that the fire watches are not watching the welding as much as they are watching the surrounding area to see if there are any releases or anything that might present a potential hazard, not just to the welder but to anyone in the area that might be ignited. That person is trained that if they see something happening, they

stop the individual that might be causing it, or if something starts to ball (?), to evacuate the area and shut down that piece of equipment. He stated that if the 15-second estimate was accurate, then it would happen so fast that having the automatic shutoff device on a diesel welder is not going to do any good anyway. There are controls in place that work very, very well, and the safety record demonstrates that, including the PSM requirements for hot work.

There being no further comments or questions the Chairman adjourned the meeting at approximately XXXXXXXX.