Ocotillo Express, LLC

Compliance Memorandum in Response to the November 27, 2013 Summary of Violations Issued by DTSC

Supporting Exhibits

COX CASTLE NICHOLSON

Memorandum

To: Roger Vintze, Branch Chief of the DTSC Imperial CUPA

From: Preston W. Brooks

Copy: Ms. Rene Braud
Mr. Chris Shugart

Date: February 11, 2014

Re: Compliance Memorandum in Response to the November 27, 2013, Summary of Violations Issued by DTSC

The following memorandum and attached documentation are submitted to the Department of Toxic Substances Control Imperial Certified Unified Program Agency ("DTSC") on behalf of Ocotillo Express, LLC ("Ocotillo") in response to the Summary of Violations ("SOV") issued to the facility located at 1377 West Imperial Highway in Ocotillo, California (the "Facility"). The DTSC directed Ocotillo to respond to the SOV by February 13, 2014. Enclosed with this memorandum are documents responsive to the document requests in the SOV.

I. INTRODUCTION

The Facility consists of 112 wind turbines which were constructed pursuant to an agreement with the landowner, the United States Bureau of Land Management. The wind turbines were manufactured by Siemens, and Siemens has been contracted by Ocotillo to perform the ongoing service and maintenance of the wind turbines. The Facility came online recently, in December of 2012.

Ocotillo has dedicated significant resources to measures at the Facility that conserve native habitats, preserve the native desert environment, and protect local wildlife. At full capacity, the Facility produces 265 megawatts of clean, renewable energy, powers up to 75,000 homes, and replaces the roughly 700,000 tons of carbon dioxide that would otherwise be emitted each year by power plants producing non-renewable energy.

The proper operation of wind turbine facilities depends upon the use of hydraulic oil, lubricating oil, gear oil and grease inside each turbine. As with any machinery that utilizes such fluids, internal leaks can sometimes occur. The equipment within the turbines, however, is designed to prevent internal leaks from reaching the ground. Fortunately, the leaks that have occurred at the Facility have been limited in extent and are being promptly remedied, as set forth in further detail below.

In response to leaks from the wind turbines to the ground below, and both prior and subsequent to the issuance of the SOV, employees of Ocotillo and Siemens have been working diligently (1) to address the effects of the leaks (*e.g.*, by immediately excavating and disposing of the impacted soil); (2) to identify the source of the leaks; and (3) to take comprehensive actions to prevent future leaks. Their work has already resulted in a significant reduction in the amount of leaks at the Facility, and further efforts are ongoing, as discussed below.

II. HOW THE WIND TURBINES WORK

The wind turbines are positioned on top of towers which are 80 meters tall. Each turbine has three rotor blades which are approximately 95 meters in diameter and are attached to a rotating hub. The Siemens 2.37 megawatt wind turbine generator captures energy produced by the wind which causes the rotation of the rotor blades. Diagrams of the turbines' components are set forth in the presentation included in Exhibit A of this binder. Each turbine can rotate 360 degrees in order to optimize the generation of electricity. Within each turbine, the following materials are essential to turbine operation: Castrol Optigear Synthetic X 320 Gear Lubricant, Hyspin AWH-M 32 hydraulic oil, grease, and Siemens Carcoolant. The Material Safety Data Sheet for each material used in the turbines is included in Exhibit B.

In addition, below the pitching mechanism for each rotor blade in each hub, there is an absorbent "diaper" that wraps around the housing. The purpose of the diaper is to catch any leaks of oil from the equipment. The diapers are composed of material similar to that of a pig mat, and are replaced annually or upon evidence indicating leaks from the generator hub (whichever occurs earlier).

Siemens' certification program for its maintenance technicians is among the best in the industry. Based on the specialty training required for any work affecting turbine operations, Siemens employees and its subcontractors – not Ocotillo staff – are the only people who are authorized to work on the wind turbines.

III. COMPLIANCE WITH THE SUMMARY OF VIOLATIONS

a. Violation No. 1: Disposal to the Ground

The SOV indicated that leaks of oil had occurred from the wind turbines ("WTs") designated as WT80, WT167, WT25, and WT11. Accordingly, the SOV directed Ocotillo to excavate, containerize, and dispose of the wastes resulting from the leaks at an off-site disposal facility authorized to receive hazardous waste.

i. Procedure for Addressing the Impacted Soil

Ocotillo's procedure for addressing any leaks from the turbines – including the leaks identified in Violation No. 1– is to promptly excavate the oil-impacted soil and store it in properly labeled containers at the locked storage building located at the south-central portion of the operations and maintenance compound at the Facility. The material is then transported from the Facility by a licensed waste contractor and disposed of in accordance with all applicable laws. Photographs of containers holding regulated waste at the facility are included in Exhibit C. All containers are secured and properly labeled with all information required by law.

The transportation of the material from the Facility, for off-site disposal, is documented by the waste manifests attached as Exhibit D. The manifests provide a record of the volume of soil removed from the Facility, measured by weight. The weight of the soil set forth in the manifests, however, is not an indicator of the amount of oil within the soil, as such oil is an exceedingly small percentage of the total weight, nor can the weight of the oil be extrapolated from the weight of the soil. Each manifest lists the material being transported, the number of containers being transported, the total quantity of material, and the applicable waste codes. In addition, the "Manifest Tracking Sheet" attached as Exhibit E provides an overview of the amount of impacted soil removed from the Facility for off-site disposal.

As a result of the SOV, information pertaining to the leaks from the turbines is now recorded in a dedicated Spill Report Form which is filled out for every incident (see Exhibit F). The Spill Report Form tracks the date and location of the leak, the source of the leak, the type of leaked material, visual observations estimating the quantity of leaked material, the repair method, and a narrative describing the incident and response. Prior to creation of the Spill Report Form, similar information regarding leaks associated with the turbines was recorded in KRIMA reports (a health and safety report) and Service Order logs ("Service Orders") generated by Siemens (see Exhibit G). The Service Orders also include information regarding the services performed by Siemens at Ocotillo, including ongoing activities like wind turbine inspection, maintenance and repair.

ii. Estimated Total Volume of Leaked Materials

When information from the Spill Report Form or the Service Orders indicates that materials from inside the turbine have leaked onto the soil, the leak incident and related details are then recorded on the tracking sheet attached as Exhibit G ("Tracking Sheet"). Based on the information in the Tracking Sheet, Ocotillo believes that the amount of oil that has leaked to soil at the Facility is unlikely to have exceeded 35 gallons – and has likely been limited to approximately 28 gallons.

Specifically, the Facility has had a total of 24 leaks to soil at the Facility, with 22 of those leaks occurring from the wind turbines and the other two occurring from construction equipment used for specific, short-term projects. Based on the estimated quantities at the known leaks, as set forth on Exhibit G, the average leak amounted to approximately 1.2 gallons. Only one leak exceeded 2 gallons in volume.

In regard to those leaks for which a volumetric estimate of the quantity of oil leaked was not available, Ocotillo's observations indicate that the nature and quantity of the leak was consistent with the leaks for which estimated volumes were available. Therefore, for those leaks, the average volume of leaked material (*i.e.*, 1.2 gallons) was applied. Based on applying this average, the likely volume of leaked oil at the Facility amounts to approximately 28 gallons. If the average leak volume is doubled for each of the leaks for which estimated leak volumes are not available (*i.e.*, to 2.4 gallons/leak), the total amount of leaked oil amounts to approximately 35 gallons.

iii. Disposal of Impacted Soil as Non-Hazardous Waste

Ocotillo sampled and analyzed the soil from leaks at cited towers WT25 and WT11 in order to characterize it for proper disposal. As set forth in Exhibit H, the laboratory results confirmed that the impacted material is considered non-hazardous waste because it contained no free oil, showed analyte concentrations below applicable toxicity threshold concentrations, and showed no contaminant concentrations at levels above applicable reporting thresholds. Laboratory analysis was performed by Advanced Technology Laboratories, at the direction of Ocotillo's environmental consultant, Stantec Consulting Services, Inc. Based on the results, the soil was disposed of as non-hazardous waste. For further detail, please see the waste manifests in Exhibit D.

The additional requirements set forth in Violation. No. 1 are included in the discussion regarding Violation No. 4, which is set forth in subsection (d) below.

b. Violation No. 2: Failure to Have a Business Plan

In May of 2013, Ocotillo prepared and implemented its business plan, consistent with the requirements of the California Health & Safety Code. In the SOV, DTSC required Ocotillo to submit the plan to the California Environmental Reporting System ("CERS"), pursuant to California Health & Safety Code section 25503.5(a)(1). In compliance with the SOV and the California Health & Safety Code, Ocotillo uploaded the required business plan on December 23, 2013.

c. Violation No. 3: Failure to Have Training on Implementing the Business Plan

Pursuant to Violation No. 3, the SOV required Ocotillo to describe the training that it staff will receive, both introductory and continuing, pursuant to California Health & Safety Code section 25504(c). Accordingly, Ocotillo prepared a written description of the training, which is attached as Exhibit I.

d. Violation No. 4: Failure to Minimize the Potential for a Release or Threatened Release

In Violation No. 4, the SOV directed Ocotillo to provide information regarding (i) the nature, quantity and locations of oil stored within the turbines; (ii) the history of leaks associated with the turbines; (iii) the actions taken to identify and address the source of the leaks of oil from the turbines; (iv) the actions taken to address the soil affected by the leaks; and (v) the maintenance requirements applicable to the turbines.

The SOV also requested information regarding any further leaks of oil or other potentially hazardous materials at the Facility. During the meeting between DTSC and Ocotillo at the Facility on January 15, 2014, Ocotillo provided DTSC with documentation concerning a leak of transformer oil on December 11, 2013. The relevant documentation is also attached to this memorandum as Exhibit J, and the leak is discussed in subsection (vi), below. In addition, subsection (vii) includes information pertaining to two leak events that were remediated by Ocotillo following notification to the United States Bureau of Land Management ("BLM").

i. Oil Stored Within the Turbines

The wind turbine stores two types of oil along with industrial grease, as indicated on page 7 of Exhibit A. The pitch of the turbine blades is controlled by a high-pressure hydraulic system that contains numerous valves, cylinders, reservoirs, hoses and connections, as seen in the photographs on page eight of Exhibit A. The hydraulic system contains fifty-nine gallons of Hyspin AWH-M 32 hydraulic oil. The main shaft passes from the turbine blades into a gear box, which then translates the rotational movement of the turbine blades into an input for the generator. The gear box and the gears contain 106 gallons of Castrol Synthetic X 320 Gear Lubricant. The wind turbine also contains 20 gallons of Siemens' Carcoolant to allow the machinery to operate in extreme heat and cold. Additionally, the many moving parts within the wind turbine utilize a total of approximately five gallons of industrial grease. The Material Safety Data Sheet for each material used in the turbines is included in Exhibit B.

ii. Leaks at the Facility to Date

The Tracking Sheet (discussed above) is attached to this memorandum as Exhibit G. The Tracking Sheet records the leak events where oil has come into contact with soil at the Facility and, where available, includes the estimated quantity of materials leaked to the soil based on visual observations. In addition, the Manifest Tracking Sheet attached as Exhibit E records the quantity of soil removed from the Facility for off-site disposal. Based on the information in the Tracking Sheet, the leaks to date at the Facility have been relatively minimal in extent with the exception of the leak of mineral oil from the transformer (discussed in subsection (vi), below). In regard to the leaks on land under BLM's jurisdiction (discussed in subsection (vii), below), although the quantity of soil excavated for off-site disposal was much larger than with a typical leak, due to high winds that dispersed the oil to a greater extent, the amount of oil actually leaked did not exceed approximately 1-2 gallons for each event.

The source of the leaks and the work performed to address the source of the leaks is discussed below. As a result of adjusting the torque settings for the turbines, the leaks from the turbines appear to have stopped, with the following two exceptions:

WT 25

On January 24, 2014, Siemens identified drops of hydraulic oil on the turbine. In addition, a few drops of oil were observed on the ground at the base of the turbine. The quantity of oil leaked appears to have been less than 0.25 gallons. In response, Siemens excavated the oil-impacted soil and placed the soil in 55-gallon drums complying with the storage requirements discussed in Violations No. 5 through 8. The soil has been disposed of at a licensed, off-site disposal facility.

The source of the leak was determined to be a loose high-pressure hose connection in the hub pitch system within the turbine. Repairs to the hub are ongoing, in order to prevent any future leaks. In the interim, WT 25 is being inspected twice a day and any impacts to soil are being promptly addressed via excavation and off-site disposal. Photographs showing the tower and the limited extent of the leaking are set forth as Exhibit K.

WT 172

On January 24, 2014, Siemens identified a leak from the gear oil pump. The source of the leak was the failure of a component in the bottom of the tank, which allowed gear oil to leak onto the tower. Leaks were confined to the exterior of the turbine, and no oil leaked onto the ground. The quantity of oil leaked appears to have been less than 0.25 gallons and the tank for the gear oil pump has since been repaired, in order to prevent any further leaks. On a daily basis, Siemens employees have

inspected WT 172 and all other turbines to check for evidence of leaks arising from failure of tank-related components. As with any other leaks, any oil-impacted soil observed during these inspections will be promptly excavated and removed from the Facility for off-site disposal.

iii. Actions Taken to Identify and Address Leak Sources

As set forth in the information presented to DTSC during the meeting between DTSC and Ocotillo at the Facility on January 15, 2014, leaks from the turbines are detected in several ways. First, each turbine in the facility is electronically monitored and tracked from a control room at the Facility. The system monitors each individual turbine for electrical output, proper operation, the need for maintenance, and evidence of errors or malfunction. In the event any error, malfunction or other indicator of a potential leak is detected, Siemens employees or Siemens contractors are promptly dispatched to inspect the tower in detail and to check for evidence of leaks or releases. This frequently includes climbing to the top of the 80-meter towers in order to inspect the interior of the turbine housing for evidence of equipment malfunction.

In addition, on a daily basis, Siemens employees have inspected each turbine and the area around the turbines for evidence of leaks or releases. As soon as a leak is observed from any tower, Siemens personnel fill out a Spill Report Form (see Exhibit F). Depending on the type of equipment malfunction at issue, Siemens may also enter information on a Service Order or a KRIMA (a health and safety incident reporting form). In response to the SOV and subsequent discussions with DTSC, Ocotillo and Siemens have taken steps to significantly improve the quantity and quality of documentation including Spill Report Forms, Service Orders, and related documentation

Ocotillo and Siemens have performed a Root Cause Analysis, which consisted of extensive investigations of all of the turbines that have leaked, in order to isolate the cause of the leaks. In doing so, they created a comprehensive review program that resulted in the identification of nine potential causes of the leaks (see *Root Cause Verification Matrix* at page 11 of Exhibit A). Each of the nine possible causes was then researched, tested and either confirmed or eliminated, based on work performed by Siemens' manufacturing representatives, including design engineers in Germany, as directed by Ocotillo. Based on the research and analysis performed to date, and as shown on the documentation in Exhibit A, the leaks of hydraulic oil appear to be related to failures of the O-rings, which are small rings of rubber used to seal the high-pressure hoses to the manifolds located inside the generator housing in the turbines.

The O-rings are designed to last approximately three to five years. The reason for the failure of the O-rings at the Facility, which have only been in place since

December of 2012, appears to have been improper torque settings for the hydraulic fittings in the hub. Therefore, Ocotillo is working with Siemens to perform three distinct actions to address the O-ring failures and prevent further leaks.

First, Siemens has confirmed proper torque for the turbines by inspecting the fittings and, as necessary, making appropriate adjustments to the high-pressure hoses connected to the manifolds. The immediate effect of this action was to stop nearly all leaks of hydraulic oil from the turbines. Second, Siemens immediately replaced the O-rings in those turbines where torque setting adjustments did not stop the leaking. Third, Ocotillo has scheduled the replacement of O-rings in each turbine within three years of the installation as part of routine service of this system or upon any evidence of the failure of any O-ring (whichever occurs earlier).

The cumulative effect of these actions is to (1) stop all ongoing leaks of hydraulic oil from the turbines; (2) correct the torque settings that caused the O-rings to fail in less than three years' time; and (3) replace the O-rings in each turbine prior to the earliest anticipated fail date, thereby avoiding the risk of future leaks. By completing these actions, Ocotillo's intent is to prevent any further hydraulic leaks from occurring at the Facility in the future (and to immediately and effectively address any leaks that might occur).

iv. Actions Taken to Address Oil-Impacted Soil

When the presence of oil-impacted soil was discovered pursuant to the procedures set forth above, the soil was promptly excavated and transported to the locked storage shed, where it was placed within 55-gallon drums that were closed and managed in a manner consistent with the requirements discussed in Violation Nos. 5 through 8 of the SOV. The procedure for addressing the oil-impacted soil concluded when the 55-gallon drums were removed from the Facility by a licensed waste transporter and disposed of at a licensed off-site disposal facility. Waste disposal manifests for soil removed from the Facility for off-site disposal are available in Exhibit D. In the event that any impacted soil is discovered in the future, it will be managed pursuant to the process set forth above.

v. Turbine Maintenance Requirements

There are two maintenance requirements applicable to the turbines that are relevant to the subject of this memo. First, as stated above, the O-rings will be replaced every three years. Second, the fluids within the turbine, including the hydraulic oil, are checked on an annual basis and topped off as necessary. To date, limited amounts of hydraulic oil have been added to turbines to adjust for seasonal changes in the amount of oil required and to replace the oil lost in the few leaks which have occurred. The amount of the hydraulic oil added to individual turbines or the

accumulated aggregate amount has not been recorded, because oil replacement was a routine ongoing activity.

It is important to note that even if the amount of hydraulic oil added back to individual turbines were known, that amount does not equate to the amount of oil that may have been leaked to soil in the vicinity of the turbines – because (a) leaks are typically confined either to the housing of the equipment or to the exterior of the equipment (see, for example, the photographs of WT 172 in Exhibit K), (b) some oil is effectively absorbed into the machinery, and (c) oil levels have been adjusted to account for seasonal changes in the volume of oil required by the machines. In the event of internal leaks, the oil is cleaned up using absorbent cloth which is then stored in secure containers for off-site disposal in accordance with all applicable laws, and this oil never comes into any contact with the soil.

vi. Transformer Oil Release

During the meeting between Ocotillo and DTSC on January 15, 2014, Ocotillo provided DTSC with a memorandum prepared by KTA Associates, Inc., an environmental consultant retained by Ocotillo (the "KTA Memo"; attached as Exhibit J). The KTA Memo included details pertaining to a release of transformer oil which occurred at the Facility on December 11, 2013. Ocotillo provided DTSC with the KTA Memo in compliance with Violation No. 4 of the SOV, which required notifying DTSC of new releases.

As set forth in the KTA Memo, the leak consisted of approximately 25-30 gallons of mineral oil. In addition to being small in quantity, as set forth below, the leaked transformer oil was contained entirely within a secondary containment system and never came into contact with soil at the Facility. Attachment 1 of the KTA Memo shows that mineral oil is a refined petroleum product (also provided in duplicate in Exhibit H). As a refined petroleum product, the leak of mineral oil at the Facility is not required to be reported to the California Office of Emergency Services ("OES") because the release was less than 42 gallons in volume. More specifically, California Health & Safety Code section 25270.8 requires reporting leaks of petroleum products greater than one barrel in magnitude (*i.e.*, 42 gallons). This volumetric threshold is repeated in other relevant statutes, including California Government Code section 8670.25.5 and California Water Code section 13272, both of which require immediate reporting only with respect to oil discharges in quantities exceeding 42 gallons.

The volumetric threshold for reporting releases of petroleum products is further substantiated by guidance documentation issued by OES. OES's "Fact Sheet: Reporting Petroleum (Oil) Releases," dated September of 2013, states that "no notification is required when the oil is discharged onto land, does not threaten State

Waters, does not cause harm or threaten to cause harm to public health and safety, the environment or property and is under 42 gallons" (see Exhibit L).

These statutes and guidance documentation also inform the requirements of California Health & Safety Code section 25510. In connection with Title 19 of the California Code of Regulations, section 2703 (adopted pursuant to California Health & Safety Code 25503), the Health & Safety Code requires reporting a "release" of hazardous material that poses a significant present or potential hazard to human health and safety, property or the environment. With respect to the release at the Facility, Ocotillo's understanding is that a leak of 25-30 gallons of mineral oil is too small a quantity to represent a significant present or potential hazard. In addition, as explained below, the leak of the transformer oil to a secondary containment system does not constitute a "release" under California law.

California Health & Safety Code section 25501(q) defines a release as, among other things, a leak – *into the environment.* As set forth in the KTA Memo, the leaked transformer oil was contained entirely within secondary containment. The containment consisted of a system approximately 15 feet in circumference constructed around the transformer, consisting of (1) concrete-lined walls, (2) multiple layers of oil-absorbent, non-permeable membranes and (3) engineered fill (*i.e.*, imported sand) and fire-quenching stone designed to absorb liquids – both of which are not native to the Facility or the land surrounding it. As a result, the leaked transformer oil never came into contact with soil. Therefore, the leak of transformer oil does not constitute a release as defined pursuant to section 25501(q). Accordingly, there is no reporting obligation to OES.

Nor did the transformer leak implicate any follow-up reporting obligations. Pursuant to California Health & Safety Code 25510.1 and 19 CCR 2705(a), releases must be reported in compliance with the requirements of 42 USC § 11004(c), which requires reporting for releases of materials listed under the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"). Petroleum products are not regulated by CERCLA. Therefore, the follow-up reporting obligations do not apply to leaks of mineral oil. For the foregoing reasons, no follow-up reporting obligations apply to the leak of transformer oil at the Facility. Nevertheless, as stated above, Ocotillo reported the release to DTSC.

In order to address the leak, the oil impacted stone and fill were excavated from within the secondary containment system. During the excavation, samples of the stone and fill were taken from the secondary containment system and then delivered under chain-of-custody to Advanced Technology Laboratories for analysis. Stantec Consulting Services, Inc., an environmental consulting firm retained by Ocotillo, evaluated the results of the laboratory analysis and concluded that the impacted fill was not a hazardous waste under California law or pursuant to RCRA (more specifically, 40

CFR 261). The results of the analysis are included in Exhibit J as attachment A. Accordingly, the oil-impacted fill material was disposed of as non-hazardous waste (see the waste manifests in Exhibit D).

vii. Remediation of BLM Land

On March 19 and July 10, 2013, during high winds, leaks of hydraulic oil occurred from WT 161 and WT 91, respectively. Although each of the leaks was relatively minimal in quantity (*i.e.*, unlikely to exceed 1 or 2 gallons, in each case), due to high winds the hydraulic oil leaks affected soil over an area approximately 400 yards long and 150 yards wide. Therefore, in both instances, the leaks affected soil on BLM land.

In each instance, Ocotillo promptly notified BLM of the leaks and Siemens engaged EFR Environmental Services ("EFR") to excavate soil from across the impacted areas. Further, BLM sent representatives to the Facility during the performance of the remediation work. Although the leaks did not appear to affect soil deeper than an inch or two, in an abundance of caution Siemens directed EFR to excavate soil to depths ranging between four and six inches. The excavated soil from the impacted areas was containerized in properly labeled containers, transported to the storage shed, and then removed from the Facility for off-site disposal. Documentation from EFR pertaining to the cleanup is available as Exhibit M.

BLM never issued any notices of violation or similar documentation to Ocotillo in regard to the leaks. After the remediation of BLM land was completed, however, the BLM representative stated that no further action was required, and BLM has never required that Ocotillo perform any further investigation or remediation in regard to BLM land. With respect to reporting obligations to OES, for the reasons discussed in subsection (vi), above, no reporting obligations apply because the quantity of oil released was so small.

e. Minor Violations (Nos. 5 through 8)

i. Violation No. 5 (Open Containers Holding California-Regulated Hazardous Waste)

Pursuant to Violation No. 5, DTSC required that Ocotillo close all containers holding hazardous wastes and provide photographs confirming that the containers were closed. The photographs attached as Exhibit C show that all open containers have been closed and secured, evidencing Ocotillo's compliance with Violation No. 5. With respect to containers cited by DTSC but not shown in Exhibit C, the containers have been removed from the Facility and their contents disposed of in accordance with all applicable laws, with manifests attached as Exhibit D.

ii. Violation No. 6 (Labeled Containers Holding California-Regulated Hazardous Wastes Without An Accumulation Date)

In Violation No. 6, DTSC required that Ocotillo enter accumulation dates showing when hazardous wastes were first placed in their respective containers. As set forth on Exhibit C, Ocotillo has complied with DTSC's requirements. For containers cited by DTSC but not shown, the containers have been removed and their contents disposed of. Further, no 55-gallon drums or 110-gallon blue bins will remain at the Facility longer than the permitted timeframes.

iii. Violation No. 7 (Labeled Containers Holding California-Regulated Hazardous Wastes Without All Applicable Information)

Violation No. 7 required Ocotillo to place hazardous waste labels on all hazardous waste storage containers. Pursuant to the SOV, the labels need to include information regarding (i) the composition and physical state of the wastes; (ii) the particular hazardous properties of the wastes; and (iii) the name and address of the entity producing the wastes. As set forth on Exhibit C, Ocotillo has complied with DTSC's requirements. For containers cited but not shown, the containers have been removed and their contents disposed of. As with respect to Violation No. 6, no 55-gallon drums or 110-gallon blue bins will remain at the Facility longer than the permitted timeframes.

As part of Violation Nos. 5 through 7, DTSC cited Ocotillo for improper storage of oil filters. To correct this violation, consistent with the Regulatory Assistance Guidance Document issued by DTSC in November of 2008 (attached as Exhibit N), Ocotillo is storing the used oil filters in a container that is rainproof, non-leaking, closed, and labeled as containing "Used Oil Filters." See Exhibit C. When the filters are removed from the Facility for off-site disposal, they are placed within closed and sealed containers so that used oil will not spill out if the containers are placed or fall on their sides. See Exhibit N, page 1.

iv. Violation No. 8 (Failure to Properly Characterize a Hazardous Waste)

Violation No. 8 required Ocotillo to place used antifreeze within a container labeled as holding used antifreeze. Since the time that the SOV was issued, Ocotillo has removed and disposed of the antifreeze in accordance with all applicable laws. Accordingly, the cited container is no longer present at the Facility.

IV. CONCLUSION

Ocotillo is fully committed to operating the Facility to the highest standards. As a renewable energy generator, Ocotillo is inherently committed to the environment and has dedicated significant resources towards protecting the environment, under the oversight of BLM.

In response to the SOV, Ocotillo has directed Siemens to excavate oil-impacted soil, store the impacted soil in properly labeled containers in the Facility's locked storage building, and then remove the containers for off-site disposal at a licensed off-site disposal facility. In coordination with Siemens, Ocotillo has prepared a Root Cause Analysis to explain what is malfunctioning within the turbines. In addition, in the binder provided with this memorandum, Ocotillo has provided DTSC with documentation outlining the history of leaks at the Facility and information regarding the excavation and disposal of soil impacted by leaks from the turbines.

In addition, Ocotillo has filed its business plan with CERS, and has included with this memorandum a written description of the training being provided with respect to implementing the business plan. Ocotillo has also documented its compliance with the labeling and storage requirements set forth in the SOV.

Further, as set forth in this memorandum, in coordination with Siemens, Ocotillo has undertaken comprehensive maintenance efforts to address the issues identified in the Root Cause Analysis in order prevent leaks from the turbines. Ocotillo anticipates that once the work is completed, it will be unlikely that further leaks will occur. In the interim, Ocotillo will continue to promptly address and properly dispose of all soil impacted by materials related to the turbines.

Based on the foregoing information and attached documentation, Ocotillo considers the requirements set forth in the SOV to be satisfied. Ocotillo looks forward to a continued productive relationship with the DTSC and to receiving comments on this response. Further, we would be happy to meet with you to discuss any aspect of this response.

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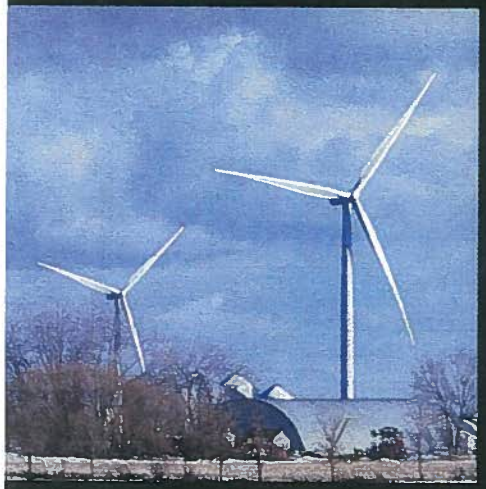
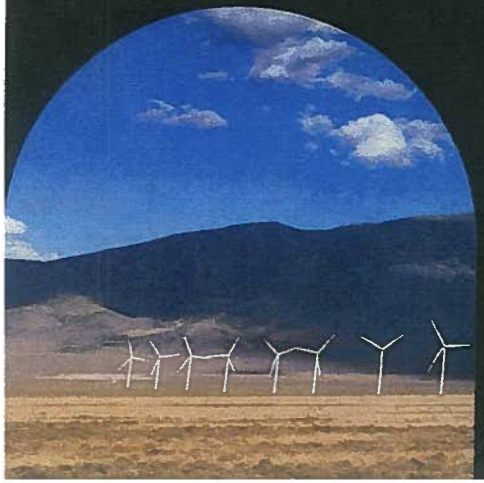


Ocotillo Hydraulic Oil Releases

Sam Tasker

Director of Operations

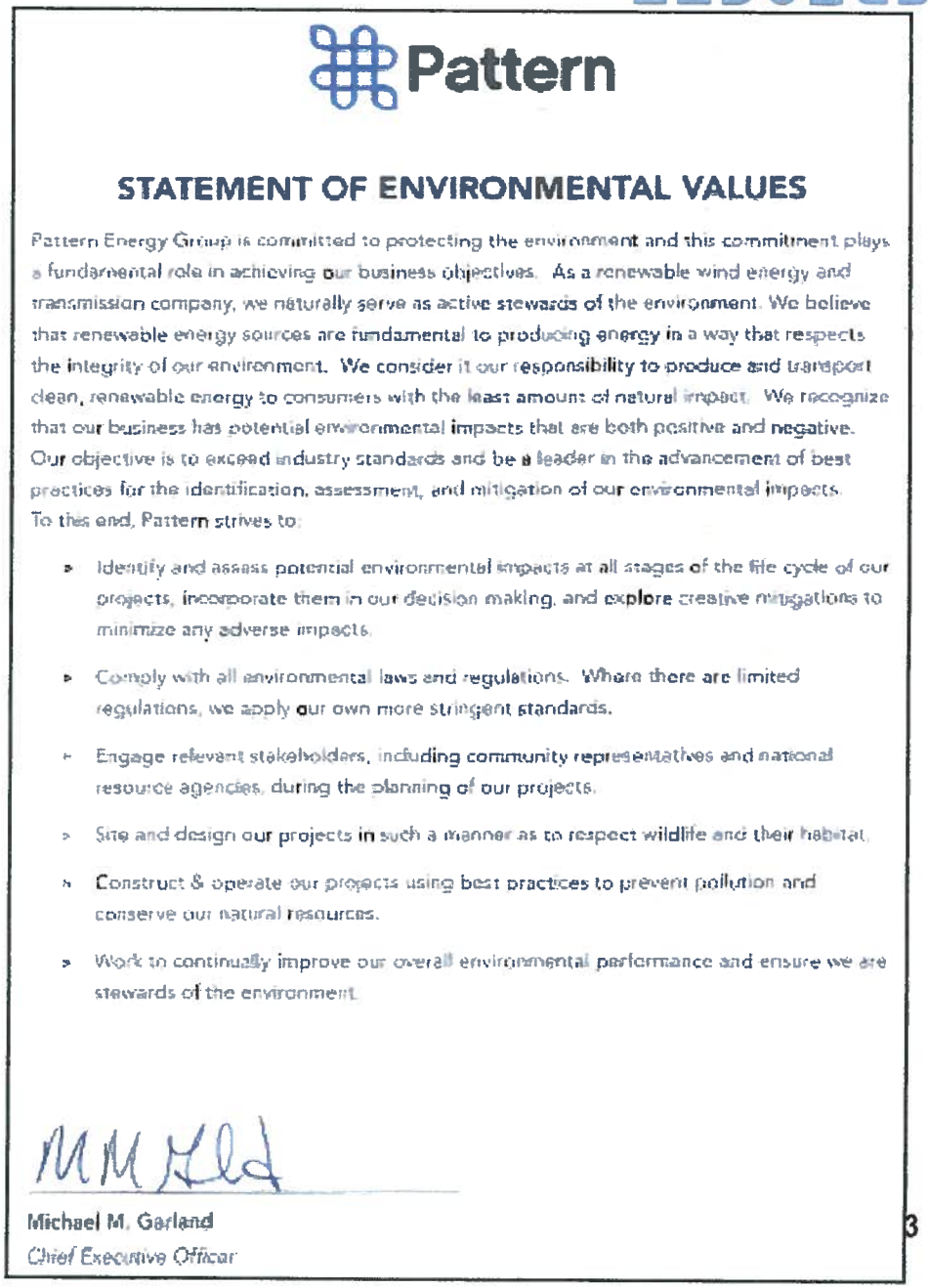


Agenda

- Introductions
- Ocotillo Wind Farm
  - Background
  - How Does a Turbine Work?
  - Root Cause Analysis For Hydraulic Oil Releases
  - Next Steps
    - 1) Addressing Releases
    - 2) Preventing Further Releases
- Questions

Reason for Improvement

- Hydraulic Oil releases made ground contact at Ocotillo Wind
- Ocotillo wind is committed to protecting the environment
- It is our goal to prevent any and every drop from occurring



Pattern

STATEMENT OF ENVIRONMENTAL VALUES

Pattern Energy Group is committed to protecting the environment and this commitment plays a fundamental role in achieving our business objectives. As a renewable wind energy and transmission company, we naturally serve as active stewards of the environment. We believe that renewable energy sources are fundamental to producing energy in a way that respects the integrity of our environment. We consider it our responsibility to produce and transport clean, renewable energy to consumers with the least amount of natural impact. We recognize that our business has potential environmental impacts that are both positive and negative. Our objective is to exceed industry standards and be a leader in the advancement of best practices for the identification, assessment, and mitigation of our environmental impacts. To this end, Pattern strives to:

- Identify and assess potential environmental impacts at all stages of the life cycle of our projects, incorporate them in our decision making, and explore creative mitigations to minimize any adverse impacts.
- Comply with all environmental laws and regulations. Where there are limited regulations, we apply our own more stringent standards.
- Engage relevant stakeholders, including community representatives and national resource agencies, during the planning of our projects.
- Site and design our projects in such a manner as to respect wildlife and their habitat.
- Construct & operate our projects using best practices to prevent pollution and conserve our natural resources.
- Work to continually improve our overall environmental performance and ensure we are stewards of the environment.

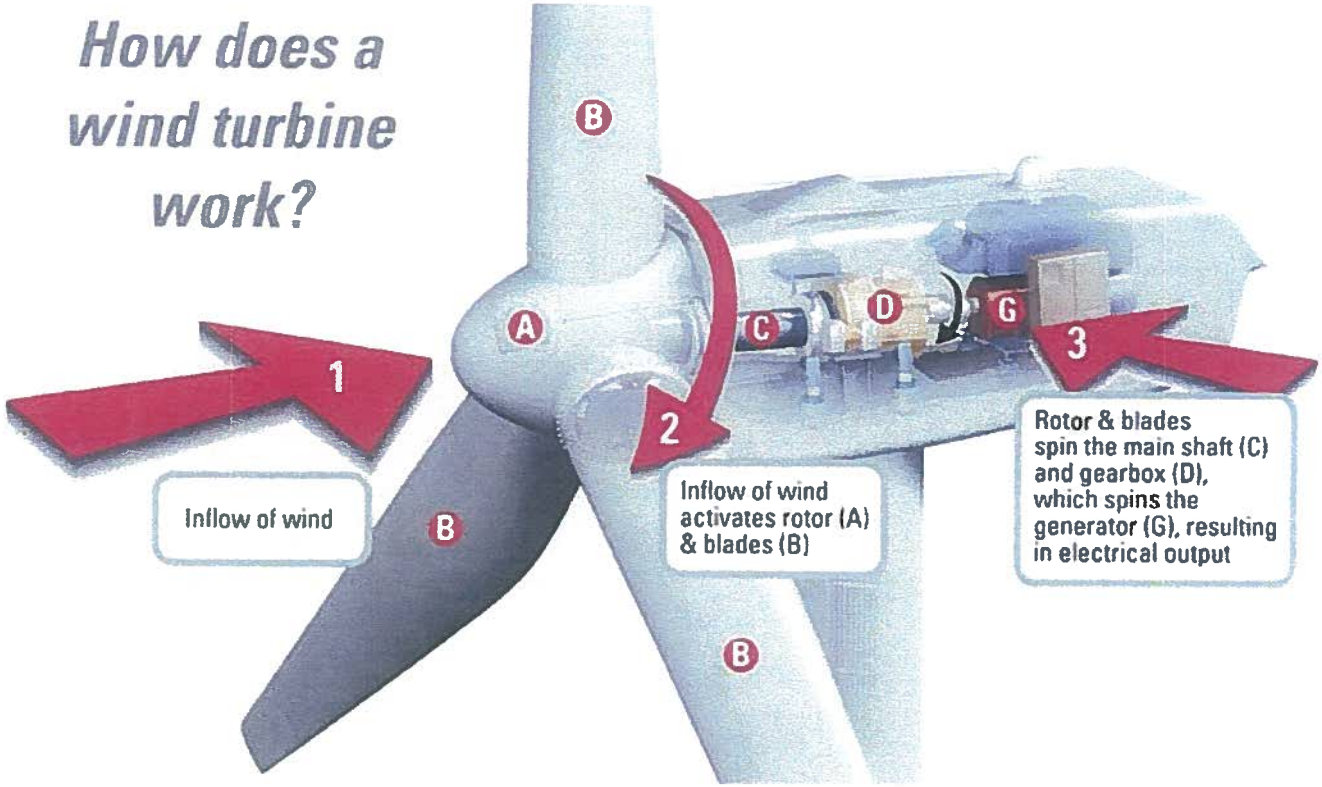
Michael M. Garland
Chief Executive Officer

Ocotillo Wind Farm

- 112 Siemens 2.37 MW Wind Turbine Generators (WTGs) for 265 MW total output at full production
- At full load; equivalent load for about 75,000 homes; annual equivalent offset of almost 700K tons of CO2
- Commercially Operational in December 2012
- Towers are 80m tall with 95m rotor diameter
- Turbines are operated by Siemens Wind Power

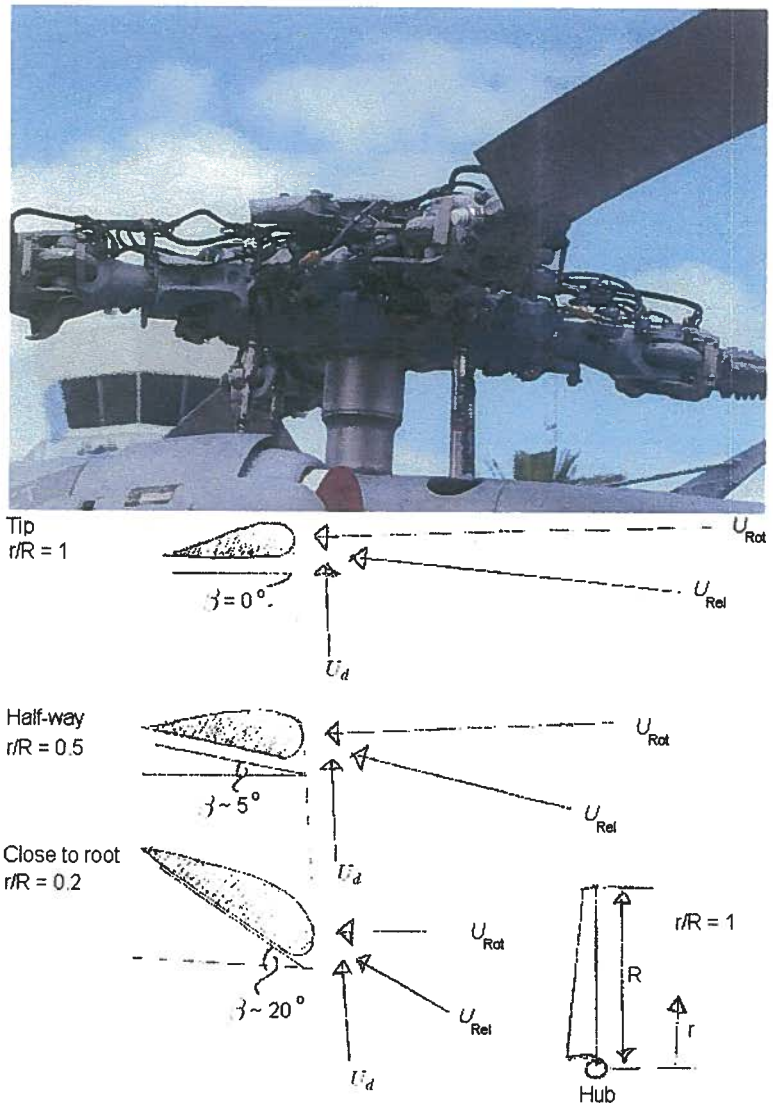
Wind Turbine Operation

- All forms of electrical generation take some fuel source to spin a rotor inside of a fixed stator
- A wind turbine does the same thing by capturing the force of wind over blades



Wind Turbine Operation

- How do the hub and blades work?
  - As seen in various applications such as aircraft wings, helicopter blades and ships propellers, changing the blade angle allows for a transfer of energy
  - A wind turbine moves the blades using hydraulic or electrical energy to capture wind, which in turn spins a rotor to induce a current in the generator



Inside the Wind Turbine

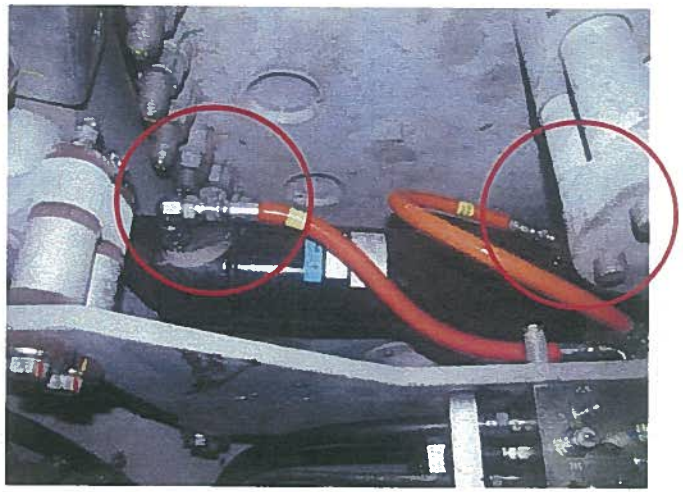
- Like all machinery, a wind turbine contains various types of fluid for lubrication, hydraulics and cooling

Material	Volume
Transformer Mineral Oil	579 gal
Hydraulic Oil	59 gal
Coolant	20 gal
Gear lubricant	106 gal
Grease	5 gal

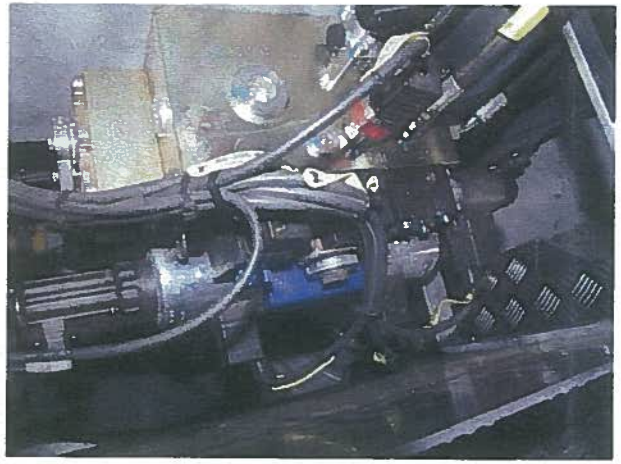
Source of Hydraulic Oil Leaks

- The Siemens 2.3 Wind Turbine Generator uses a hydraulic system with approximately 59 gallons of oil to move the blades with pressurize cylinders through a pump station consisting of numerous valves and hoses

- A variety of leak source possibilities exist and are being analyzed in each unit including oil pressure, hose failures, fitting failures and system parameters. To validate the cause, Siemens has to revisit and test each potential theory.



Siemens 2.3 Pitch Cylinder
(similar to a car's shocks)



Siemens 2.3 Hydraulic Manifold
(similar to a car's brake master cylinder)

Current Situation

- 22 releases have reached the ground and have been properly and promptly addressed
- Potential Solution: Torque check hydraulic hose fittings
  - A part by part condition assessment checklist was created for technicians to follow and to use to check torque settings and o-rings for proper specifications.
- Comprehensive systems in place to address releases
  - Crews and system diagnostics regularly monitor the turbines for these conditions locally and remotely
  - Upon discovery and notification, crews initiate ground inspections and coordinate clean-up based on the nature of the leak
  - Re-inspections are also used to ensure seepage is evaluated after initial clean-up

Commitment Going Forward

- Finalize Implementation of potential solution:
  - Proactively validate torque settings on all units
    - 48/118 on 1/14/14
    - 4 needed further action but did not release
- Continue to monitor turbines for early detection of leaks
  - Maintain routine daily site inspections and 24/7 diagnostics and monitoring
- Actively investigate other potential root causes

Back up Slide

Analysis

Root Cause Verification Matrix

Item	Suspected Root Cause	Validation Method	Result	Contributing Factor or Root Cause or NO	Who	Date	Complete
1	O-rings failing	1. Found 1 that was cut 2. Do we have sufficient supply of O-rings - Yes	Need to confirm material status of other O-rings - Manufacturer - Material - Torque spec?	CF	Jamaal	12-6-13	
2	Improper Torquing	1. Siemens to modify procedure to establish and confirm proper torque spec (NEED SPEC)	12-11 inspection pending	CF	Dan	12-11-13	
3	Orange Hose Fitting Failures	1. "hose failure" term used to describe problems with fittings on hose – no known hose material failure such as pinhole leak		NO	Jamaal	12-6-13	12-6-13
4	Black Hose Fitting Failures	1. "hose failure" term used to describe problems with fittings on hose – no known hose material failure such as pinhole leak	no records indicate black hose failure	NO	Jamaal	12-6-13	12-6-13
5	Steel Pipe Failures	1. Found 3 that we know of – RDA case opened for this – possible machining problem that causes crack in outer-radius? 2. Sufficient Supply – NO – 10 on order due 12/16.	This leak gets contained in the nacelle – not the hub. This increased the count of leaks, **but not ground contact**	NO	Jeff/Dan	12-6-13	12-12-13
6	Improper Oil Type	1. Confirm with technical services 2. Get a hyd oil sample and copy of sampling technique	Standardized within Siemens	NO	Jeff	12-6-13	12-6-13
7	Improper Oil Pressure	1. Open – need to confirm week of 12-11	confirmed correct	NO	Jeff	12-6-13	12-12-13
8	Other Parameters	1. Can a Parameter change help reduce pressure or pumping during leak conditions or detection? 2. At what amount does sensor indicate "low level" alarm or warning?	Confirmed correct	NO	Jeff	12-6-13	12-12-13
9	Pitch Block Failure	1. Only 1 failure to date	Continue to monitor	CF / low	Jamaal	12-6-13	

Back up Slide

Analysis

- Suspected Cause #2
  - Torque Checks
    - Example of form being used
    - Checks began on 12/30
  - As checks are completed, we will monitor the units for improvements

PHOTO CARD **SIEMENS**

DATE: January 5, 2013

TURBINE TYPE (CIRCLE ONE): 2 3-93 | 2 3-101 | 2 3-108 | (3.0-101)

SITE NAME: Bison 1B

TURBINE NUMBER/ SERIAL NUMBER: U-15 / 3000117

INSPECTOR: Jeff Elberling

ISSUE DESCRIPTION: Leaking blade bearing seal

COMPONENT DESCRIPTION: Blade bearing – Blade A

COMPONENT SERIAL NUMBER: 401366320001

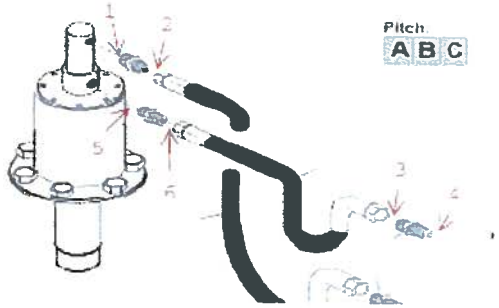
PART NUMBER (OPTIONAL): A9B 10048172

MANUFACTERER (IF APPLICABLE): ROTHE ERDE

Back up

Blade Number _____

Pitch Pawl



Connection

1 _____
2 _____
3 _____
4 _____
5 _____
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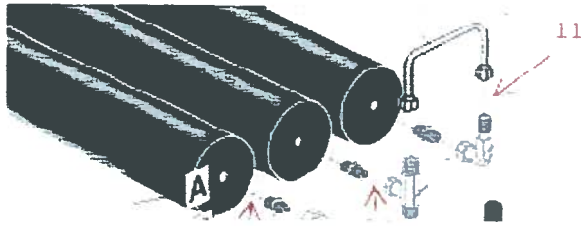
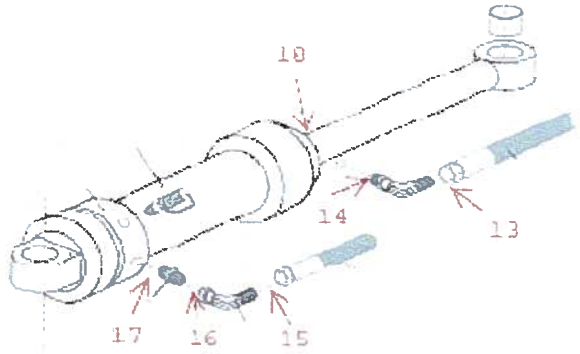
7 _____

Accumulator Pipes



9 _____
10 _____
11 _____
12 _____

Pitch Cylinder Hose



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