



de Venezuela

RIF No. J-29404315-1

Power Station CVG B 7FA Generator EHS Incident Report

Line of Business: EPC ProEnergy Services

Site/Job Name:

Power Station CVG B

Location:

Puerto Ordaz, Venezuela

Phone:

011-58-424-222-6083

GENERAL INFORMATION

Employee Involved
(if Injury/Illness/Fatality/Near Miss)

☐ ProEnergy services Employee

☐ Contractor:

☐ Visitor

☐ Customer

☐ Other:

☒ Not Applicable

Type of Accident

☐ Injury /Illness

☐ Near Miss

☐ Fire

☐ Spill Release

☐ Fatality

☐ ProEnergy Damage

☒ Other: Owner (CVG) Property –
7FA Generator

**Date of the
Incident**

October 4th, 2010

Date of the Week

Monday

**Approximate
Time (AM/PM)**

10:05 AM

**Time Employee
Began Shift**

NA

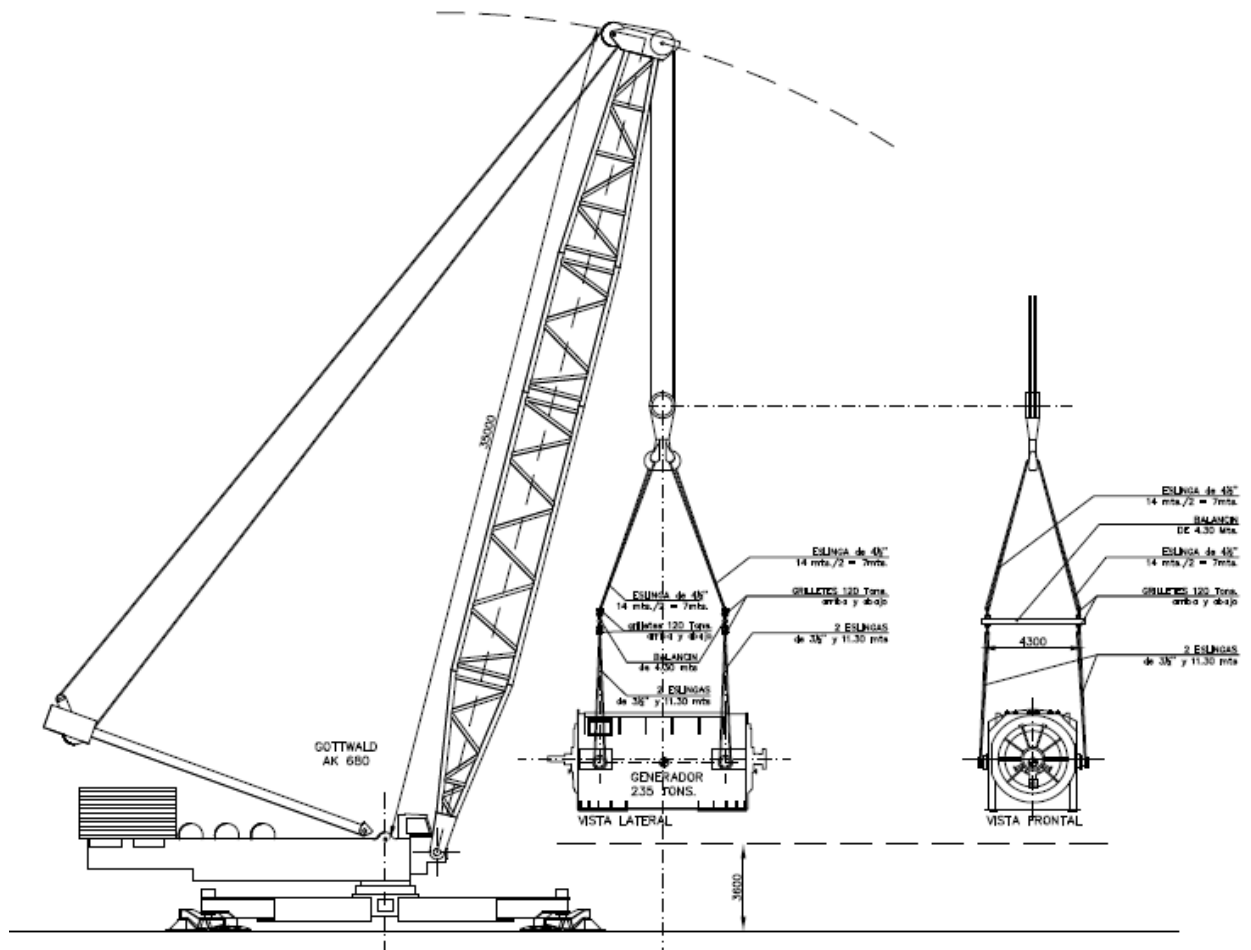
INCIDENT REPORT– W/ DETAILED SEQUENCE OF EVENTS: Who, What, When, Why and How (Attach Additional Pages as necessary)

1.0 OBJECTIVE

The objective of this report is to describe and provide details of the October incident in CVG Site B. This incident occurred at 10:05 AM on Monday October, 4th, 2010 where a crane Gottwald AK680 collided with the Generator of the GE 7FA Turbine.

2.0 BACKGROUND

ProEnergy is in the process of constructing a power station, named CVG B, within SIDOR's industrial area. PES is in the process of working on foundations and erecting mechanical equipment. The GE 7FA Turbine and associated Generator were already on their respective foundations when the incident occurred. Both of these units were erected and located on their foundation using an 850 ton crane (Gottwald AK 680). The crane is owned by a company called Tecnosur (Heavy Cranes) subcontracted by SIDOR. The same crane that was later involved in the incident.



Generator Erection – Figure 1

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 Celular: 0424-139-6144

3.0 INCIDENT DESCRIPTION

On Monday, October 4th, 2010 at approximately 10:05 AM, the crane operator, supposedly, miss operated the crane and, during such a miss operation, the crane hit the generator of the GE 7FA Turbine, see sketch in Appendix A. The impact moved the generator to the East putting all the anchor bolts in a bind (see Appendix B & C for anchor bolt bending position). At the point of contact the outer case of the Generator was bent and separated at 2 different locations, see pictures included in Appendix D & F for more details.

Apparently a flag man/signal man was present during the accident, but it could not be confirmed. No reliable witnesses were found, and there were no PES employees present at the time of the incident. No reliable information could be collected for the events prior to and during the incident.

The generator involved in the incident is owned by CVG, and the crane company as well as the crane involved in the incident was subcontracted by SIDOR. This incident occurred during the disassembly of the crane, needed to allow the removal of it from SIDOR facilities. There were no construction activities in the area of the crane at the time of the incident and only SIDOR staff and its subcontractor equipment and staff was involved in the operation.

Sequence of Events

- a. ***Monday, October 4th, 2010 at approximately 10:05 AM.*** The crane operator, miss operated the crane and hit the generator of the GE 7FA Turbine.
- b. ***Monday October 4th, 2010 – 10:12 AM.*** The civil superintendent, Kyle Roskam contacted, the PM, Bill Lugo and advised him of the situation. He went to the site immediately to assess the situation.
- c. ***Monday October 4th, 2010 – 10:23 AM.*** The PM arrived at the site to assess the situation. When the PM arrived at the crane crew had already mobilized to an area away from the crane. Site B Safety and QA/QC personnel were already on the scene also.

PES personnel proceeded to document the damage taking numerous photographs of the 7FA Generator and crane. The Generator was covered with a tarp which limited any visual inspection.

PES Safety Supervisor interviewed the crane crew and documented damage also. The entire area around the crane and the 7FA were red taped to secure the area for later investigation by insurance companies.

- d. ***Monday October 4th, 2010 – 10:30 AM.*** PM met with SIDOR representatives to collect information about the incident, and to advice SIDOR of the need to the get the insurance company there as soon as possible. PES expressed concerned that the crane

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still had the generator in a bind and should not stay that way any longer than it needed to. The sooner the crane is pull away the better.

- e. **Monday October 4th, 2010 – 10:30 AM.** A SIDOR ambulance was called to the site of the incident to get a drug test from the crane operator. We later found out that the ambulance could not do a formal drug test. In order to have the crane operator drug screened there was a need to involve the local police who needed to authorize the screen, a cumbersome process. We could not get the drug test from the operator.
- f. **Monday Oct 4th, 2010 – 10:50 AM.** PES Upper Management (Jeff Canon, David Whisenhunt, etc.) as well as Derwick Representative (Iker Candina) was informed of the incident via email. Several pictures were also sent to the various parties.
- g. **Monday Oct 4th, 2010 – 6:22 PM.** A formal communication was issued to SIDOR from Derwick, advising SIDOR of the incident, even though; PES nor Derwick were not directly involved in the incident, see appendix E for copy of the communication.
- h. **Tuesday Oct 5th, 2010 – 4:00 PM.** PES PM was verbally informed by SIDOR that no mechanical nor control failures were found. The crane was found to be in good condition, both by SIDOR and the Insurance company representatives (Tecnosur/Heavy Crane).
- i. **Wednesday Oct 6th, 2010 – 2:30 PM.** The crane company (Heavy Cranes/Tecnosur) insurance representative initiated the incident investigation. Apparently, no physical damage to the crane was found; only the 7FA generator was affected.
- j. **Thursday Oct 7th, 2010 – 10:30 AM.** PES PM was verbally informed that SIDOR got written release from the crane company (Heavy Cranes/Tecnosur) insurance representative to generate a work order to move the crane from the incident area.
- k. **Thursday Oct 7th, 2010 – 2:30 PM.** SIDOR & Tecnosur (Heavy Cranes) proceed to move the crane boom away from the generator, see pictures in Appendix F. PES' contractor personnel proceed to remove the tarp from the generator to allow for a visual inspection of the hit area. GE TA as well as PES technical personal proceeded to inspect the generator damage as well as other areas such as generator anchor bolts, see pictures included in Appendix F for more information.
- l. **Thursday Oct 7th, 2010.** GE TA issued a field report to their main office for review and final comments on recommended action to take after the incident. Waiting from final response from GE.

EHS INCIDENT INVESTIGATION REPORT:

This investigation report was performed by SIDOR-CVG and the Crane Insurance Representative (Tecnosur/ Heavy Cranes), since PES was not involved in the incident and the equipment damaged and the crane involved in the incident were owned by others.

By the time this document was issued, PES had not received the formal incident investigation report from SIDOR-CVG nor the crane insurance representative.

CORRECTIVE ACTIONS:

Waiting for formal GE response from their initial assessment of the incident to inform Derwick, SIDOR and CVG of correcting actions required to repair the generator damage. Also, we have PES engineering reviewing the amount of anchor bolt deflection to see what corrective actions are needed.

INVESTIGATION TEAM:

The investigation was performed by SIDOR-CVG Team and the Crane Insurance Representative (Tecnosur/ Heavy Cranes), since the equipment damaged and the crane involved in the incident were owned by others.

CLOSURE APPROVAL

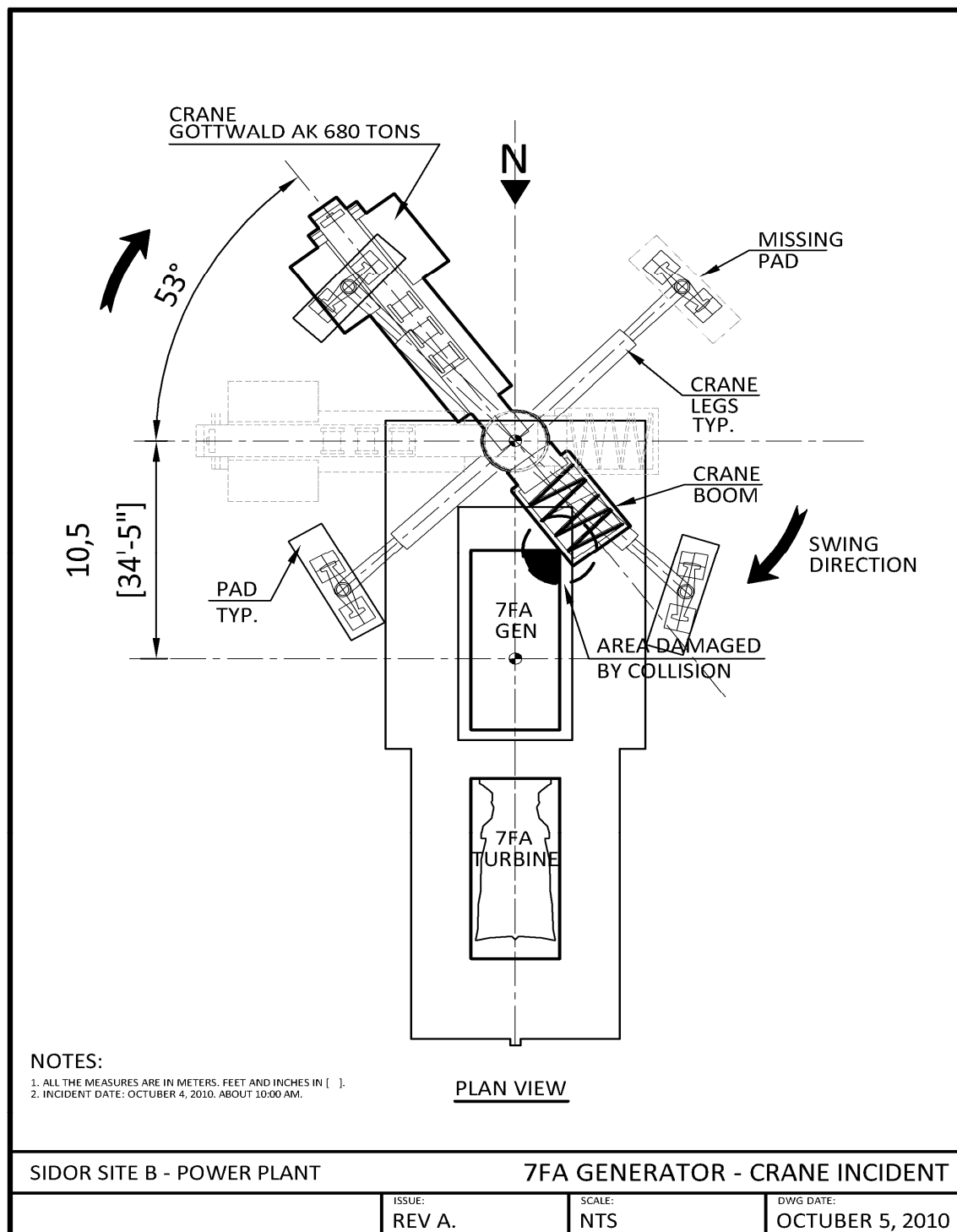
Project Manager/Site Manger	Bill Lugo	Bill Lugo Signature	Oct 12, 2010
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Appendixes - A, B, C, D, E & F
Attachment - Crane and Operator Certification.

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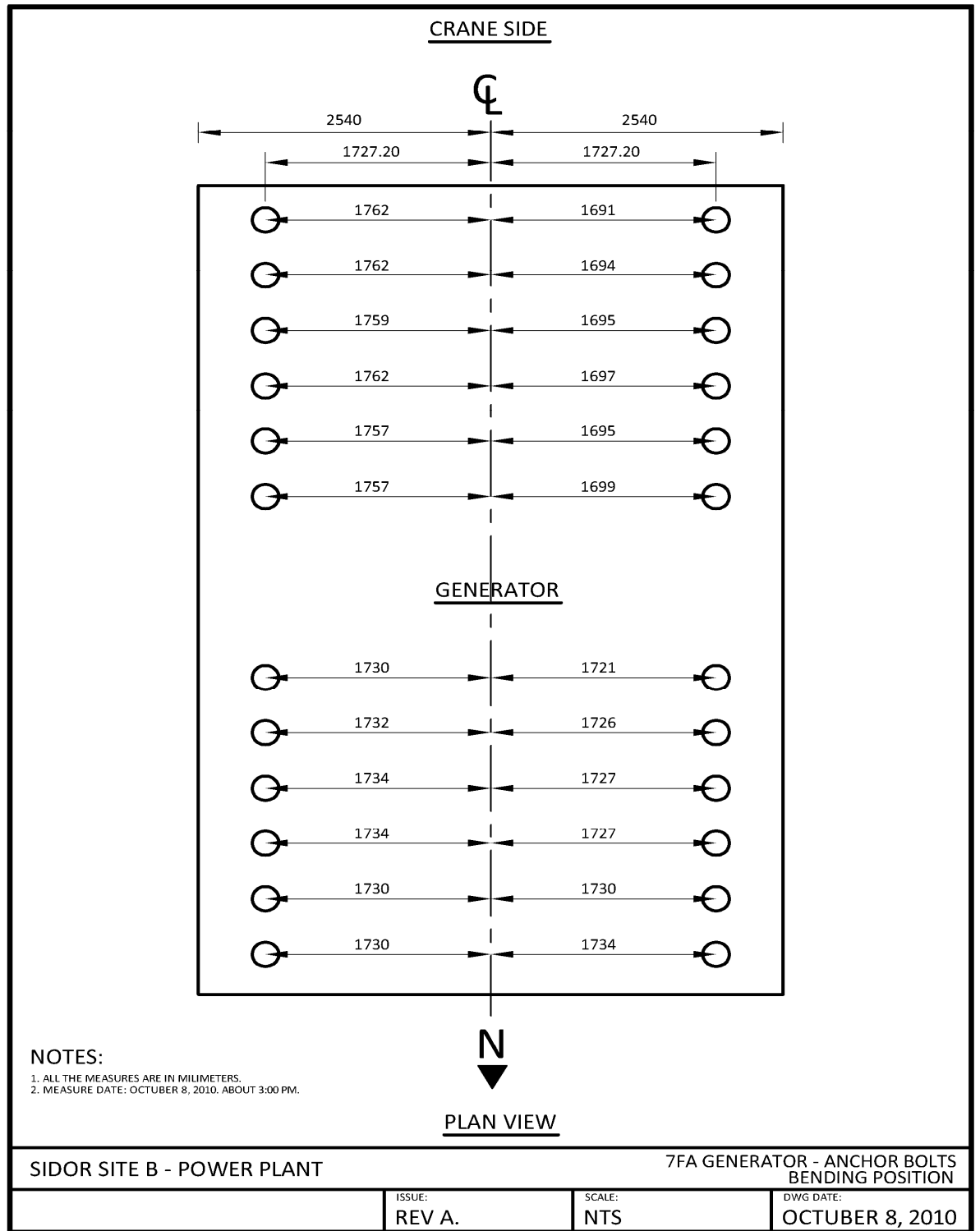
APPENDIX A



ProEnergy Servicios de Venezuela C.A.
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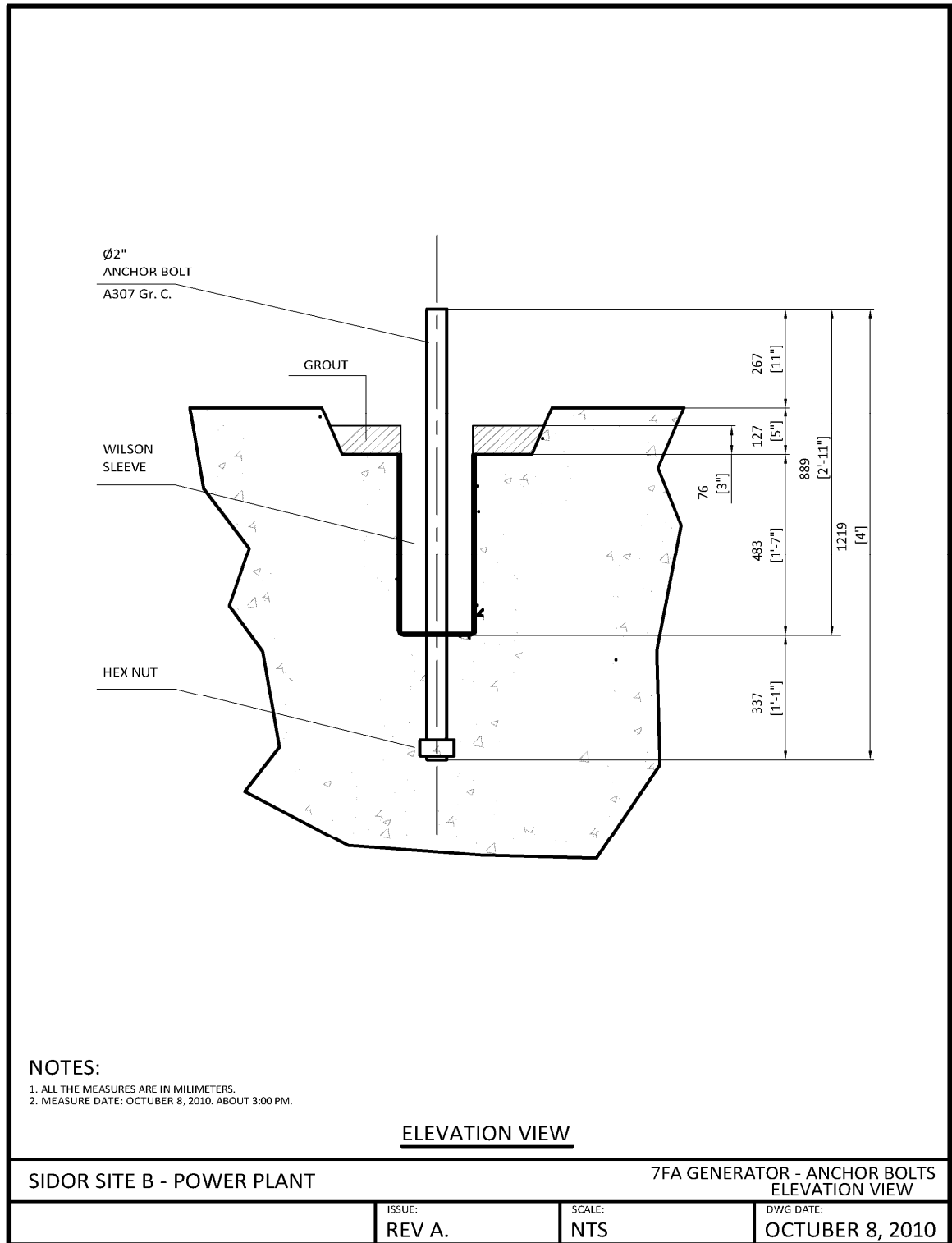
APPENDIX B



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APPENDIX C



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APPENDIX D

Pictures



Picture 1 – General View

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APPENDIX D (Continuation)



Picture 2 – Crane and Generator after the Incident

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APPENDIX D (Continuation)



Picture 3 – Points of Contact

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APPENDIX E

From: Bill Lugo

Sent: Tuesday, October 05, 2010 7:03 AM

To: Brett Bettinger

Cc: Cole Franklin

Subject: FW: Incidente Grúa de Tecnosur en Planta B (Tecnosur Crane Incident in Plant B) - Letter to SIDOR/CVG

Brett,

Her is the translation of the letter below.

“As you know in the morning of today a crane of Tecnosur Company during a maneuver, turned and struck, apparently, with great force the 7FA Unit Generator that was installed on its foundation. During this event, SIDOR personnel and SIDOR’s Contractor (Tecnosur) personnel were working on assembling the crane in question.

Since Tecnosur is a contractor directly contracted by SIDOR, we consider appropriate that before we make any recommendation or mobilization at the site, insurance representatives from SIDOR and Tecnosur company visit the site and review the incident.

Once inspectors and the insurance company conduct their investigation, we will proceed to verify the actions to take, for example:

- 1 .- Assess any foundation damage,*
- 2 .- Proceed to bring GE specialists to assess the damage to the generator,*
- 3. – Probably there would be a need to check the rotor of the unit (possibly having to remove it and send it to the manufacturer’s shop for tests)*
- 4. - After this report will proceed to issue recommendations and the impact that this incident caused the project.*

Thanking you in advance for your cooperation,”

Regards

Bill Lugo

Project Manager

ProEnergy Services

2001 ProEnergy Blvd.
Sedalia, Missouri 65301
660-829-5100 office
660-829-1160 fax

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From: IKER CANDINA [mailto:ikercandina@cantv.net]
Sent: Monday, October 04, 2010 6:22 PM
To: 'PIFANO Igor SIDOR'; 'CARLOS CABRAL MIBAN'
Cc: Bill Lugo; Brett Bettinger; abetancourt@derwickassociates.com
Subject: Incidento Grua de Tecnosur en Planta B

Como es de su conocimiento en la mañana de hoy una grúa de la compañía Tecnosur durante una maniobra, giro y golpeo aparentemente con una gran fuerza el generador de la unidad 7FA que se encontraba instalado en su fundación. Durante el referido evento, personal de SIDOR y personal de la contratista de SIDOR (Tecnosur) estaban trabajando ensamblando la grúa en cuestión.

Por ser Tecnosur un contratista directamente contratado por SIDOR, consideramos apropiado antes de nosotros realizar ninguna recomendación o movilización en el sitio, procedan sus inspectores de seguros y los de la empresa Tecnosur a verificar lo ocurrido.

Una vez sus inspectores y la compañía de seguros tomen la información que requieran, nosotros procederemos a verificar las acciones a tomar, como por ejemplo:

- 1.- evaluar los daños a la fundación
- 2.- procederemos a traer unos especialistas de GE para evaluar los daños al generador,
- 3.- seguramente se requerirá revisar el rotor de la unidad (posiblemente se tenga que extraer y enviar a pruebas a la casa matriz)
- 4.- después de este informe procederemos a emitir recomendación y el impacto que este incidente ocasiona al proyecto.

Agradeciendo de antemano su amplia colaboración, me despido de usted

IKER CANDINA
Director de Proyectos



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