

URBASER

EVERE

Waste to energy plant

Fos-sur-Mer

FRANCE

EAR Survey Report Recommendations



CUSTOMER & MARKET SURVEY REPORT
18TH FEBRUARY 2010

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SUMMARY INFORMATION

| | | |
|-------------------------------|--|---|
| DATE OF SURVEY | 18th February 2010 | |
| PREVIOUS SURVEY | 5th February 2009 | |
| ENGINEER | François PERIQUET | |
| CHARTIS WRITING OFFICE | Madrid – Spain | |
| OWNER | URBASER | |
| OPERATOR | EVERE | |
| LOCATION ADDRESS | Zone Industriale-Portuaire de Fos-sur-Mer 13270 Fos-sur-Mer France | |
| WEBSITE | | |
| CLASS OF RISK | Utility – Waste to Energy | |
| SITE CONTACTS | Luis de la Parte Francisco Bencomo Carlos Navarro Tarrazon Bertrand Robin Antonio Paradinas Riestra | URBASER Env., General Manager URBASER Env., Administration and Accounting Manager URBASER Env., Gerente de Riesgos URBASER, Operations Manager AON Construcción |

This report was prepared following an EAR inspection survey visit carried out over one day. No fire protection systems were tested during this survey.

1 RECOMMENDATIONS

1.1 COMPLETED RECOMMENDATIONS

2007-11/3 Lifting equipment: slings inspection

CHARTIS recommends that all the slings used for lifting equipment and materials should be certified by a recognized company. They should be checked before using them at each time.

2010 status: construction works are completed / will be integrated in the maintenance program

2009-2/2 Fixed fire protection of the feed-hoppers

We recommend installing a deluge system on the feed-hoppers of the two incineration line.

2010 status: completed

2009-2/3 Burner's fire detection

Furnace burners are fired with light diesel oil; we recommend installing automatic fire detection on the fuel supply line and above the burners.

2010 status: completed

1.2 NEW & OUTSTANDING/PRIOR RECOMMENDATIONS

| | | | | | | | |
|--|--|---|--|-------------|--|----------------|--|
| 2007-11/2 | | Smoking Policy | | | | | |
| <u>Description of problem:</u> | | | | | | | |
| During the plant tour, it was clear that no smoking policy has been set up till now; no signs were noticed and many people were smoking at different places. | | | | | | | |
| The plant contains of a high amount of combustible materials like plastics, papers, ... A fire could very quickly become uncontrollable. | | | | | | | |
| <u>Recommendation:</u> | | | | | | | |
| CHARTIS strongly recommends having a smoking policy in place. Smoking should be forbidden in all plant areas and designated areas for smokers should be created at a safe distance from the works and technical installations. | | | | | | | |
| <u>Client Response</u> | | | | | | | |
| Accepted | | Under Review | | Rejected | | Not applicable | |
| Completed | | Ongoing | | No Progress | | | |
| <u>Client response details</u> | | | | | | | |
| Update 2010 | | Old recommendations – no improvement since 2007 | | | | | |
| Details | | | | | | | |

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|---|---|------------------------|--|-------------|--|----------------|--|
| 2009-2/1 | Fire Water supply for the water-foam monitors | | | | | | |
| <u>Description of problem:</u> | | | | | | | |
| The plant as an excellent fire water reserve. The fixed fire protection systems (monitors – water curtains) are crucial and are fed by a single diesel driven fire pump. | | | | | | | |
| <u>Recommendation:</u> | | | | | | | |
| CHARTIS strongly recommends installing a second fire pump which would be redundant with the first one. Ideal situation would be to have an electrical driven fire pump (full size) with the diesel driven fire pump that would automatically start in case of pressure drop in the circuit. | | | | | | | |
| <u>Client Response</u> | | | | | | | |
| Accepted | | Under Review | | Rejected | | Not applicable | |
| Completed | | Ongoing | | No Progress | | | |
| <u>Client response details</u> | | | | | | | |
| Update 2010 | | Crucial recommendation | | | | | |
| Details | | | | | | | |

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|--|-------------------------------------|--------------|--|-------------|--|----------------|--|
| 2009-2/4 | Steam turbine fixed fire protection | | | | | | |
| <u>Description of problem:</u> | | | | | | | |
| The steam turbine is a large size turbine for the waste to energy industry using a huge volume of hydraulic oil; there is no fixed fire protection on the turbine and on the lube-oil station. | | | | | | | |
| <u>Recommendation:</u> | | | | | | | |
| According to the NFPA 850 standards, CHARTIS recommends installing fixed fire protection (water spray) on the turbine bearings and above the lube-oil pumping unit (water-foam deluge). The oil containment system installed around the oil tank should have at least a capacity of 110% of the volume of oil contained in the system. | | | | | | | |
| <u>Client Response</u> | | | | | | | |
| Accepted | | Under Review | | Rejected | | Not applicable | |
| Completed | | Ongoing | | No Progress | | | |
| <u>Client response details</u> | | | | | | | |
| Update 2010 | | No change | | | | | |
| Details | | | | | | | |

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|---|---|--------------|--|-------------|--|----------------|--|
| 2009-2/5 | Fixed fire protection of the recycling facility | | | | | | |
| <u>Description of problem:</u> | | | | | | | |
| The recycling facility is a huge room containing high amounts of combustible waste: plastics, papers, wood... A fire there would very quickly extend and the wooden structure would hence catch fire. | | | | | | | |
| <u>Recommendation:</u> | | | | | | | |
| We recommend installing fixed fire protection to protect the wooden frame structure in the recycling facility and in other buildings equipped with similar structure... | | | | | | | |
| Client Response | | | | | | | |
| Accepted | | Under Review | | Rejected | | Not applicable | |
| Completed | | Ongoing | | No Progress | | | |
| <u>Client response details</u> | | | | | | | |
| Update 2010 | | No change | | | | | |
| Details | | | | | | | |

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|---|--|-----------------------------------|--------------|--|--|-------------|--|
| 2010-2/1 | | Automatic Fixed Detection systems | | | | | |
| Description of problem: | | | | | | | |
| Many hazardous areas are not fire detected. Considering the huge amount of combustible materials and the combustible construction, a fire should be very quickly detected without any delay. | | | | | | | |
| Recommendation: | | | | | | | |
| We recommend installing quick fire detection system that would cover the entire volume of the following parts of the plant: | | | | | | | |
| <div><div>-</div>Waste sorting facility</div> <div><div>-</div>Waste receiving hall including train area</div> <div><div>-</div>Transformers' bays</div> <div><div>-</div>Waste bunkers</div> <div><div>-</div>Turbine hall (1st floor)</div> <div><div>-</div>Turbine oil pumping unit (ground floor)</div> | | | | | | | |
| Client Response | | | | | | | |
| Accepted | | | Under Review | | | Rejected | |
| Completed | | | Ongoing | | | No Progress | |
| Client response details | | | | | | | |
| Update 2010 | | No change | | | | | |
| Details | | | | | | | |