

May 29, 2009

David C. Lew  
Director, Division of Reactor Projects  
US Nuclear Regulatory Commission – Region 1  
475 Allendale Rd.  
King of Prussia, PA 19406-9866

Subject: Oyster Creek Nuclear Power Plant Operability and Equipment Monitoring  
Analysis

Attachment: Information flyer on Cassantec Ltd. Reliability Report for Equipment  
Monitoring, Risk Analysis and Remaining Lifetime Estimation

Dear Sir,

First let me congratulate you on the very professional Annual Assessment Report Meeting that you and your personnel conducted last night on Oyster Creek NPP's 2008 Performance. I was particularly impressed with your conduct of the question and answer period and the delicate handling of the audience interrogators and your reluctance to allow any long winded debates. However, I was disappointed by the Exelon's Management Personnel's very defensive attitude about any criticism of their actions and their departure before the public discussion period. I myself have also personally experience this attitude from the Oyster Creek NPP employees when I tried to contact them about a new technology being introduced in NPP's in Europe for monitoring critical equipments and aging systems.

This new leading edge technology being considered by the European NPP Operators provides next generation predictive maintenance from equipment condition monitoring to integrated lifetime prognostics through proven computer modeling and data mining techniques. E.ON Nuclear Power, which is one of Europe's largest Nuclear Electrical Suppliers, is launching this technology in two pilot applications, one in Germany (NPP Isar near Munich, starting Q3/2009) and one in Sweden (NPP Oskarshamn 3 starting 2010). There is also keen interest and promising feedback from the Vattenfall and NOK European NPP Operators for this technology as well.

The reason that I am familiar with this Technology and it's introduction in NPP's in Europe is that a cousin of mine is the CEO of the Company that has developed these unique methodological approaches, models, algorithms and tools. The name of the company is Cassantec Ltd. and it has ongoing pilot projects in other industries in the U.S. (e.g., Eastman Chemical Company; Kingsport, Tennessee). Being familiar with the Oyster Creek NPP, (I have lived in Ocean and Jackson Township for the last twelve years) I have recommended to my cousin that he consider applying for a grant under the American Recovery and Reinvestment Act of 2009 to initiate a pilot application in the US Nuclear Power Generating Industry and specifically the Oyster Creek Station. He is very receptive to such a partnership initiative and I have contacted US Congressman Adler's office about "Earmarking" a funding request under the Act for such a worthy

project. To date, however, I have not received any help or interest from the Congressman's Office.

I also believe that this state of the art technology would help in mitigating the sudden unscheduled downtimes similar to those "Hot Shut Downs" experienced at the Oyster Creek Nuclear Generating Station. I have tried repeatedly since early March of this year, without success, to interest the Oyster Creek Management personnel in receiving a briefing on this technology. However, it seems that they will only react to an NRC directive.

I would therefore like to recommend that Cassantec Ltd. be given the opportunity to brief some of your cognizant personnel on this technology to assist in the NRC's Aging Management Program and improve your Safety Evaluation Reporting.

I have attached an information flyer on Cassantec Ltd.'s Reliability Report for Equipment Monitoring, Risk Analysis and Remaining Lifetime Estimation and would also be pleased to provide your office with a copy of the briefing package that my cousin has prepared for the Oyster Creek NPP personnel on this technology.

Should you or your staff have any questions about this request or desire to discuss this matter further, please do not hesitate to contact me at (609) 242-8604 or e-mail address: [mygooma@aol.com](mailto:mygooma@aol.com). Thank you!

Sincerely,



H. Martin Grasmeyer  
1072 Jennifer Lane  
Manahawkin, NJ 08050

## Cassantec Reliability Report

Next-generation equipment  
condition monitoring, risk analysis  
and remaining lifetime estimation



**CASSANTEC**

Zurich, Switzerland ◆ Cleveland, Ohio, U.S.A.

## What are we offering?

Over the last decades, the field of Predictive Maintenance (PdM) has provided a strong and growing set of tools, techniques and technologies to optimize operations and maintenance processes of industrial assets. Condition monitoring techniques, in particular, yield valuable insight into the "state of health" of industrial equipment, providing clues and hints on expected future performance profiles and related risks of performance flaws.

Cassantec is taking these clues and hints several steps further. Through the use of a leading-edge computational model fed by almost 20 years of condition data for numerous equipment types and models, we are able to provide structured, illustrative, quantitative and conclusive insights into expected reliability, remaining useful life (RUL) and latent risks of your equipment, going far beyond conventional PdM offerings.

Our Reliability Report is a periodical (typically monthly) advanced profile summary on industrial equipment, ranging from single bearings to complex engines, allowing to schedule targeted service interventions over a multi-period time horizon to optimize operations and maintenance processes.

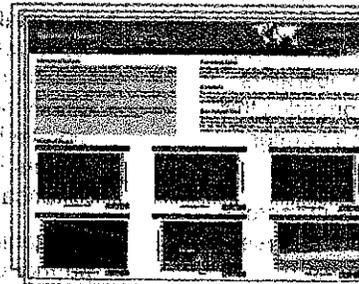
We provide this report electronically, either in a PDF format or as a MS Excel tool, including further functions for illustration, exploration and testing.

## Why is this useful for you?

Cassantec's Reliability Report exceeds the benefits of conventional condition monitoring, as it differs in its predictive power, scope and focus. A Reliability Report...

- ▶ ... provides recent condition parameter values for your equipment, and compares them to historical reference values;
- ▶ ... illustrates your equipment's proximity to extreme parameter values observed in the past;
- ▶ ... explains likelihood and speed at which these extreme parameter values can be reached in the next period(s);
- ▶ ... shows which parameters are critical and ought to be observed, and why;
- ▶ ... provides information on causes if an extreme parameter value is reached within the next period(s);
- ▶ ... allows to schedule targeted interventions over a multi-period time horizon.

Advanced **insight** provided by this report helps to further reduce the risk and cost of inappropriate maintenance interventions. Enhanced **foresight** helps to reduce the risk and cost of unexpected downtime. Hence, the Reliability Report provides you with multiple operational and financial benefits.



Reliability Report for an industrial gearbox

## How does this work?

The basis of Cassantec's Reliability Report is a computational model which draws on recent advances of data mining, artificial intelligence and hardcore stochastics. In particular, the model uses advanced Markovian and Bayesian techniques to determine condition parameter trends, resulting risk profiles, expected reliability and remaining equipment life. Thereby, it allows targeted and justifiable service intervention recommendations.

This computational model is fed by two sets of data:

- ▶ First and foremost, it is supported and calibrated by a large database with periodic condition data of reference equipment over a time frame of up to 20 years. This historical data is conditioned on 25 different equipment types with altogether more than 2000 equipment models.
- ▶ Furthermore, the model uses the latest condition data of your equipment to be monitored. The required data is based on an independent state-of-the-art lubricant analysis as it is offered by several independent lab operators world-wide. Cassantec provides this data through its preferred partner, Insight Services.

The computational model allows numerous additional simulations, sensitivity analyses and statistical tests to ascertain the robustness of the predictive insights and recommendations provided.

## Who is Cassantec?

Founded in Zurich, Switzerland in 2007, Cassantec (short for Cassandra Technologies) provides next-generation



Cassandra, prophet of critical future events in the Greek mythology

predictive technologies for equipment lifetime estimation, reliability enhancement, failure prevention and maintenance support. These technologies are based on the methodological and computational advances in operations research, artificial intelligence and data mining. To render these

technologies, Cassantec offers complete software solutions and complementary advisory services for leading companies in the power, chemical, petrochemical, automotive, steel and other industries world-wide.

Cassantec is led by an international team of accomplished professionals with strong quantitative backgrounds and affiliation to world-renowned universities. References include completed and ongoing collaboration with leading companies in the high-tech, manufacturing and energy sectors in Europe, Asia and North America.

Cassantec is a strategic cooperation partner of Insight Services, Cleveland, Ohio, U.S.A.

## Where can you find us?

We are physically present in Europe and North America, and able to offer our products and services internationally. Please contact us by e-mail or telephone to obtain further information or a price quote for the Reliability Report.

To order a Reliability Report for any of your industrial equipment, please provide a specification of the equipment type(s) and model(s). If you have set up a lubricant analysis program for your equipment already, we will need to arrange an electronic transfer of the analysis data. If you are new to lubricant analysis, we will schedule and arrange the periodical sampling with you.

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