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US Nuclear Regulatory Commission

Document Control Desk
Washington, DC 20555-0001

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Re: Notification of a potentially safety relevant discovery for Hilti HSL-3 M24 carbon steel expansion anchors

Subject: Delivery of potentially nonconforming expansion anchors type Hilti HSL-3 M24 carbon steel, which may meet the definition of a "defect".

Attention: this letter serves for information purpose only as there were no known safety related purchases of this potentially affected item in the US in the given time frame. It does not represent a 10CFR part 21 notification as there are no known US nuclear utilities affected. However, we would like to take the opportunity to inform you first-hand about this proactive international safety campaign regarding an item that is available under our NQA program.

Description of discovery of non-conformance:

During a field test performed by Hilti engineering personnel at a construction site in the UAE, one HSL-3 M24/30 anchor showed an unusual load-displacement behavior in a high-strength concrete block, with more variation than usually expected.

Testing of retaining samples from the same production lot at the anchor test field in Schaan / Liechtenstein on July 11, 2013, confirmed the unexpected behavior, and a potential impact on technical data, whilst comparison tests with a different production lot delivered normal results.

Subsequent analysis of the anchor production lot in question showed a deviation on the friction coating of the cone. Further investigations have identified a nonconformance in the production process as the root cause of this deviation.

Only certain items in the HSL anchor portfolio have such a friction coating applied to the cone, and the potential impact on these HSL type anchors was evaluated.

Analysis of potential concern:

An insufficient function of the friction coating can cause the observed irregularities in load-displacement behavior and the potential risk of a load capacity decrease below normal design safety margins. In summary, our extensive analysis indicates this nonconformance could have a substantial adverse effect on performance of the anchorage. Affected products show a potential reduction in tensile capacities, but exhibit no performance reduction in shear capacity.

The potential for an adverse effect would be associated with the specific application conditions. Because we are not aware of the specific conditions of use of the anchors sold, we are unable to determine whether the nonconformance could or will result in a substantial safety hazard (i.e., a "defect", as defined in 10CFR part 21).

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Products affected by this notification that may contain a potential defect:

We have identified all potentially affected items, production lot numbers and the time frame when these lots were potentially shipped to customers. Our investigations have determined that certain batches of carbon steel HSL-3 M24 may contain a potential defect that have been sold to customers in the below given time frame:

May 1st, 2011 until August 1st, 2013

According to our sales records, no US customers have purchased such items for nuclear projects as potentially safety related.

We would like to bring to your attention that at the same time we will also inform all other customers that have purchased such items in the affected time frame without safety relevance and/or traceability via our national sales network with the goal that potential risks are discovered and appropriately mitigated.

Required action:

Although we do not currently have any customer complaints regarding HSL-3 anchors, our Hilti brand promise of quality and trusted product performance gives us a clear obligation to handle this topic proactively. Therefore we are initiating a program to notify customers and begin a process to evaluate and, if necessary, rectify the installed product.

In order to cover any potentially safety related application that may be affected, Hilti is taking a multi-level approach to communicate this discovery for Hilti HSL-3 M24 carbon steel expansion anchors. Written notification with the appropriate level of detail is sent to

- International organizations in the nuclear industry (IAEA, NUPIC, NIAC)
- National nuclear regulators / safety authorities in the affected countries
- Utilities / Nuclear Power Plant Operators in the affected countries
- All known directly buying customers with safety related purchase orders
- All buying customers of such anchors globally in the identified time frame

If you have any questions or concerns, please direct them to Mr. Andreas Uebleis at the below provided contact details

Sincerely,

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