

EIRGRID RESPONSE TO STATEMENTS MADE BY RUSH COMMUNITY COUNCIL

To further address concerns raised by Rush Community Council in relation to the East West Interconnector, an independent safety report was agreed by EirGrid and Rush Community Council.

Rush Community Council requested that they nominate a sufficiently qualified company to carry out the independent study. It was in this way the International Consultants, KEMA, were commissioned to carry out a report for Rush Community Council and EirGrid. Topics covered in the report were agreed in advance by all parties.

A communications protocol for contact with KEMA was put in place to ensure that all parties were copied on communication with the appointed consultants. EirGrid have abided by this protocol at all times.

The findings of the KEMA report give much reassurance to people that continued to have health and safety concerns about the Interconnector. The Kema report confirms the Interconnector is a very safe cable installation.

In order to ensure transparency, EirGrid is happy to make all draft copies of the KEMA Report and feedback from both EirGrid and Rush Community Council available to any member of the public on request to eastwestinterconnector@eirgrid.com

Rush Community Council have published a number of points on their website and leaflet regarding EirGrid that we have responded to below.

Whatever the early differences that EirGrid and Rush community had regarding traffic disruptions during installation of the Interconnector, we have worked together with the community and the chamber of commerce to minimise this disruption as much as possible.

We would like to thank the people of Rush for their patience during this time and we greatly appreciate the positive feedback we have received to date. The bulk of the work on the road is nearing completion and we can look forward to reaping the benefits of the Interconnector from next year.

STATEMENT BY RUSH COMMUNITY COUNCIL	EIRGRID FACTS
Rush Community Council state that the final report was second draft report	<p>Untrue.</p> <p>Final Report was issued by KEMA on the 30th of June 2011.</p> <p>EirGrid did not in any way seek to influence the report or the independence of KEMA and the e-mail trail supports this contrary to the claims made by Rush Community Council.</p> <p>All draft versions of the report are available on request by sending an email to eastwestinterconnector@eirgrid.com</p>
Rush Community Council state that due to "EirGrid's objection to the report's content a further report was issued on 30th June".	<p>This is untrue.</p> <p>EirGrid did not in any way seek to influence the report or the independence of KEMA and the e-mail trail supports this contrary to the claims made by Rush Community Council.</p> <p>EirGrid sought clarification on two points in the second draft of the KEMA report.</p> <p>EirGrid has no issue with the findings of all versions of the KEMA report which conclude that that East West Interconnector is a very safe cable installation.</p>
Rush Community Council state that <i>key content in KEMA report's findings changed in second version.</i>	<p>It is clear from the correspondence which was circulated to all parties as per the agreed communication protocol EirGrid did not request any change to the KEMA Report. EirGrid asked for the reason for the change from 60µT to 120µT which was unexplained between the 1st and 2nd drafts of the KEMA report. However, either value (60µT or 120µT) is far below the relevant safety limit for 0 to 1 hertz (Hz).</p> <p>The ICNIRP safety guideline for 0-1Hz is 400,000µT. The frequency of the "time varying field" referred to by Rush Community Council under normal ramping is in the range 0 to 1 Hz as confirmed by KEMA and should not be confused with the range of 50 Hz .</p> <p>Rush Community Council have mistakenly stated that the time varying field is in the 50 Hz range, which it is not, being instead much closer to the 0 Hz (DC) limit. The time varying fields carried on the East West Interconnector do not pose any health concerns</p>

	<p>to anyone living along the route.</p> <p>The Draper Report refers to 50-60Hz fields and is not relevant to the time varying fields carried on the Interconnector which are close to 0 Hz (DC).</p> <p>Rush Community Council is incorrect in linking the East West Interconnector to childhood leukemia. Such a statement will cause unnecessary distress to people.</p>
<p><i>Rush Community Council reference to why EirGird has not used the precautionary principle.</i></p>	<p>The magnetic field of Interconnector does not pose a risk to public health.</p> <p>The International Commission on Non-Ionizing Radiation Protection (ICNIRP) has established protection guidelines for general, continuous, public exposure to magnetic fields, i.e.in the 0 – 1 hertz range, as 400,000μT (ICNIRP, 2009). The intensity of the magnetic field from the East West Interconnector has been shown to be far lower than these exposure limits. KEMA have confirmed that in this 0 – 1 hertz range the Interconnector will only produce a magnetic field of 60μT.</p> <p>The precautionary principle is invoked in areas where there is some reason to question whether a substance or exposure is harmful, either based on a biological rationale or based on some experimental or epidemiologic research which provides some evidence for concern. Reviews of scientific research by national and international scientific and health agencies have not found evidence sufficient to establish any adverse effects on health at exposure levels below those recommended by ICNIRP. The Interconnector will operate well within the ICNIRP guidelines to protect public health at all times and therefore, there is no reason to invoke the precautionary principle. The World Health Organisation has determined that international science-based standards to limit human exposure are protective of public health.</p>
<p><i>Rush Community Council state that cable failure has been confirmed as possible.</i></p>	<p>What Kema's response on this subject states:</p> <p><i>"In general, KEMA's impression of the mechanical protection of the HVDC power cable circuit through the town of Rush is rather positive. Multiple measures have been taken to minimise the risk on mechanical damage. Compared to other cable circuits in</i></p>

	<p><i>Europe (e.g. 400 kV AC), for reference, this cable circuit is protected very well</i>.¹</p>
<p><i>Rush Community Council state that "The KEMA report has confirmed the cables will emit a time varying/transient/AC magnetic field"</i></p>	<p>In all direct current (DC) transmission lines, the magnetic field fluctuates a few percent away from the average magnetic field. Even with these fluctuations these lines are considered to be DC transmission lines. The time varying magnetic fields associated with the DC ripple are insignificant and, as acknowledged by KEMA, do not come close to approaching the international guidelines to ensure public health.</p> <p>The frequency of the "time varying field" associated with the East West Interconnector under normal ramping is in the range 0 to 1 Hz as confirmed by KEMA. Rush Community Council have incorrectly assumed the time varying field is in the 50 Hz range, which it is not, being instead much closer to 0 Hz (the ICNIRP safety guideline for 0-1Hz is 400,000 µT).</p> <p>The Draper Report refers to 50 - 60Hz fields and is not relevant to AC fields closer to 0 Hz (DC).</p> <p>The entire electrical network in Ireland, which includes the interconnector, is in full compliance with the most up-to-date national, international and EU guidelines and recommendations relating to public EMF exposure.</p> <p>KEMA stated clearly that "<i>the magnetic fields generated by the HVDC cable can be considered to be very low compared to the ICNIRP guidelines. There are large differences in between the advised maximum magnetic field and the expected magnetic field in reality, for DC fields and time varying fields due to ripples, transients or changes in the circuit loading.</i>"²</p> <p>The KEMA report also stated that they do not believe that the AC ripple total contribution comes close to the ICNIRP limits.</p>
<p><i>Rush Community Council suggest that "incorrect evidence was supplied to the planning process by EirGrid and their consultants who asserted our community would be exposed to static magnetic fields only."</i></p>	<p>That is untrue.</p> <p>All questions raised at the An Bord Pleanála oral hearing were answered.</p> <p>Much of the discussions about health focused largely on explaining why biological and health-related research on AC magnetic fields at 50 Hz did not apply to DC magnetic fields. In</p>

¹ Final KEMA Report, dated 29th June 2011, page 13

² Final KEMA Report, dated 29th June 2011, page 32

	<p>response to a question about epidemiology studies that had reported statistical associations with ELF magnetic fields, EirGrid's consultants indicated that the frequencies of AC fields of interest in the studies referenced by landowners were in the 50 - 60 Hz range.</p> <p>The data in the KEMA report supports the conclusion that the harmonic currents are far below the ICNIRP guidelines at these frequencies.</p> <p>In fact, the magnitude of harmonic currents would have to be about three times greater than the main DC current capacity of the cables to reach the ICNIRP guideline reference level. In all DC transmission lines, the magnetic field fluctuates a few percent away from the average magnetic field. Even with these fluctuations, such a line is considered to be DC transmission line.</p> <p>The existing Irish electricity system and the interconnector is designed such that it will always operate within the national, international and EU guidelines for magnetic field exposure.</p> <p>The guidelines are endorsed as being sufficient for the protection of public health by the World Health Organisation's (WHO), International Commission on Non- Ionising Radiation Protection (ICNIRP), International Agency for Research on Cancer (IARC) and the Department of Communications, Marine and Natural Resources (DCMNR) report published in March 2007.</p>
--	---

<p><i>Rush Community Council suggest that “The KEMA report has Confirmed The Van Rongen Report, commissioned and distributed by the Department of Energy, is a flawed report for not recognising the time-varying/transient/AC magnetic fields produced by this system.</i></p>	<p>In all DC transmission lines, the magnetic field fluctuates a few percent away from the average magnetic field. Even with these fluctuations these lines are considered to be DC transmission lines. The time varying magnetic fields associated with the DC ripple are insignificant and, as acknowledged by KEMA, do not come close to approaching the international guidelines to ensure public health.</p> <p>The frequency of the “time varying field” associated with the East West Interconnector under normal ramping is in the range 0 to 1 Hz as confirmed by KEMA. In their claim, Rush Community Council have incorrectly assumed the time varying field is in the 50 Hz range, which it is not, being instead much closer to the 0-1 Hz (400,000 µT).</p> <p>The Draper Report refers to 50 -60Hz fields and is not relevant to AC fields closer to 0 Hz (DC).</p> <p>The entire electrical network in Ireland, which includes the interconnector, is in full compliance with the most up-to-date national, international and EU guidelines and recommendations relating to public EMF exposure. KEMA stated clearly that “ <i>the magnetic fields generated by the HVDC cable can be considered to be very low compared to the ICNIRP guidelines. There are large differences in between the advised maximum magnetic field and the expected magnetic field in reality, for DC fields and time varying fields due to ripples, transients or changes in the circuit loading.</i>”³</p> <p>The KEMA report also stated that they do not believe that the AC ripple total contribution comes close to the ICNIRP limits.</p> <p>The record clearly demonstrates that there is no inconsistency between testimony given at the Oral Hearing and the KEMA report and Bailey’s evidence is independently supported by the assessment provided by Dr. Van Rongen to the Department of Communication. None of the experts consulted suggested that the operation of the DC line would pose a health risk to adjacent populations.</p>
<p><i>Rush Community Council suggest that “The KEMA report has confirmed Properties inside the cable bends will be exposed to even higher levels of magnetic fields.</i></p>	<p>The KEMA report covers the case of a bend in the cable route and the possible EMF increased due to superposition of different magnetic field contributions. However, KEMA clearly state “the</p>

³ Final KEMA Report, dated 29th June 2011, page 32

	<p>total increase of the magnetic fields due to the bends will be small”⁴. With the maximum increase of only a few micro Tesla. The interconnector is designed such that it will always operate within the national, international and EU guidelines for magnetic field exposure. KEMA state clearly that “the <i>magnetic fields generated by the HVDC cable can be considered to be very low compared to the ICNIRP guidelines.</i>”⁵</p> <p>KEMA does not believe that the AC ripple total contribution comes close to the ICNIRP limits.</p>
<p><i>Rush Community Council suggest that “The KEMA report has Confirmed Cable failure is possible and that enormous energy release is equally possible – up to 20,000 Amps.</i></p>	<p>KEMA were selected by Rush Community Council as their independent consultants.</p> <p>EirGrid would like to point members of the public to the full KEMA report and draw attention to KEMA’s full conclusion in the matter of energy release during a cable failure:</p> <ul style="list-style-type: none"> • <i>During a short circuit [cable failure], there are Lorentz forces acting on the cables throughout the cable circuit. The cables will not move upwards or sideways, and will stay inside the ducts</i> • <i>At the location of a short circuit (cable or joint failure), the dissipated energy is ~40 kJ. This energy dissipation is relatively modest.</i> • <i>Failures in other cable circuits with a very similar dissipated energy show almost no effects outside the power cable. It is therefore expected that only the power cable or joint and the first few cm of soil directly around the power cables (inside the ducts) may become affected at a possible failure location in the East-West interconnector. This will not affect any other infrastructure that is outside this zone of a few cm of soil.</i>⁶
<p><i>Rush Community Council suggest that “The KEMA report has Confirmed Cable failure can induce a massive magnetic field which will push the cable sideways in a failure situation.</i></p>	<p>This is untrue.</p> <p>KEMA’s conclusion’s on this issue in full are as follows:</p> <ul style="list-style-type: none"> • <i>During a short circuit [cable failure], there are Lorentz forces acting on the cables throughout the cable circuit.</i>

⁴ Final KEMA Report, dated 29th June 2011, page 30

⁵ Final KEMA Report, dated 29th June 2011, page 32

⁶ Final KEMA Report, dated 29th June 2011, page 19 & 20

<p>Proximity to other underground services:</p>	<p><i>The cables will not move upwards or sideways, and will stay inside the ducts</i></p> <ul style="list-style-type: none"> • <i>At the location of a short circuit (cable or joint failure), the dissipated energy is ~40 kJ. This energy dissipation is relatively modest.</i> • <i>Failures in other cable circuits with a very similar dissipated energy show almost no effects outside the power cable. It is therefore expected that only the power cable or joint and the first few cm of soil directly around the power cables (inside the ducts) may become affected at a possible failure location in the East-West interconnector. This will not affect any other infrastructure that is outside this zone of a few cm of soil.</i>⁷ <p>Co-location of services in urban areas is common practice. The route of the cable through Rush and clearances to other services was agreed in advance with Fingal County Council. KEMA stated clearly that “failures in other cable circuits with a very similar dissipated energy show almost no effects outside the power cable”⁸. In addition to this the EWIC cables are inserted in ducts and are surrounded by cement (CBM), thereby further reducing the possibility of any effects outside of the cable itself.</p>
<p><i>Rush Community Council suggest that “The KEMA report has Confirmed there is a lack of experience and Knowledge of HVDC cables.</i></p>	<p>What KEMA state clearly is that “<i>Although there is a lack of information regarding the HVDC service experience, KEMA has the opinion that there are currently no reasons to assume a much higher failure rate for HVDC extruded cables compared to HVAC extruded cables. The bulk of the materials used are similar in both technologies, the manufacturers are similar, and the long duration testing is similar</i>”.⁹</p>
<p><i>Rush Community Council suggest that “The KEMA report has Confirmed: there are deviations from the system design.</i></p>	<p>This is incorrect. Rush Community Council have raised this issue with Fingal Co Co and the Council have stated to EirGrid that they are satisfied, that all trench installation/reinstatement is as per the approved Construction Management Plan (CMP). Due to the strategic nature of the EWI cables, additional mechanical protection i.e. Cement Bound Material (CBM) is used along the entire route. In the Fingal County Council road opening licence it was a condition to backfill any trench excavated in sand with sand or with lean mix concrete (CBM). The Contractor decided to</p>

⁷ Final KEMA Report, dated 29th June 2011, page 19 & 20

⁸ Final KEMA Report, dated 29th June 2011, page 20

⁹ Final KEMA Report, dated 29th June 2011, page 8

	<p>reinstate the trench in Rush with CBM to the underside of the finished road surface to avoid any possible settlement, to expedite the construction process and to minimise disruption to the public.</p>
<p><i>Rush Community Council suggest that “the KEMA report has confirmed the risk from trees. The cable is installed fully inside the restricted tree clearance area.</i></p>	<p>There is no stipulation in the planning consent stating there must be a 2 metre clearance between the cable and trees. In relation to the proximity of construction to trees on Channel Road Rush, all duct installation is as per the approved Construction Management Plan.</p> <p>All East West Interconnector construction activities carried out in the vicinity of the existing trees along Channel Road was undertaken with extreme care and carried out with due diligence.</p> <p>EirGrid has not removed or damaged any trees on Channel Road.</p> <p>EirGrid appreciates the support of the businesses in Rush during the installation period and has funded new trees for Main Street in Rush following the proposal by Rush chamber of commerce.</p> <p>These new trees are being placed in above ground planters at the request of Fingal County Council. This approach facilitates easier future utility maintenance and road / path rehabilitation.</p> <p>EirGrid has no issue with the tree types proposed by Fingal Council either being directly planted or placed in planters.</p>
<p><i>Rush Community Council have alleged that EirGrid have pollution of Rogerstown Estuary</i></p>	<p>No pollution of Rogerstown Estuary occurred at any time during the construction of the East West Interconnector i.e. during the trenchless crossings listed under condition no. 6(a) or any trenched ditch crossings.</p> <p>The contractor’s environmental monitoring team picked up a potential discharge that became evident once construction was completed. This discharge was investigated by the contractor and water samples were taken and sent for analysis. The results and subsequent report from our contractor has been submitted to Fingal County Council, this report confirms that there has been no pollution to the estuary as a result of the EirGrid works.</p> <p>Condition 6A of the An Bord Pleanála Conditions, details the sections of the route which are to be constructed using trenchless techniques. The ditch crossing adjacent the archaeological discovery is not one of the unnamed streams which flow into the estuary as outlined in Condition no. 6(a), nor was it highlighted as</p>

	<p>a potential impact location from Inland Fisheries Ireland. There was therefore, no requirement to carry out a trenchless crossing on this ditch. All crossings were carried out as per the planning conditions and the approved Construction Management Plan.</p>
<p>Rush Community Council stated that "Archaeological discovery at Rogerstown is not being appropriately investigated by EirGrid"</p>	<p>The archaeological discovery at Rogerstown Estuary is currently being investigated under licence from the Department of Arts, Heritage and the Gaeltacht and the National Museum by archaeologists working on behalf of EirGrid.</p> <p>EirGrid is continuing to keep the Department and Fingal Co. Co. fully briefed in relation to the archaeological investigation on an ongoing basis.</p> <p>The Council and the Department have stated that they are satisfied that the investigation is being carried out in a professional and appropriate manner under licence from the Department of Arts, Heritage and the Gaeltacht and The National Museum.</p> <p>The current phase of the investigation is solely aimed at assessing the extent of the site.</p> <p>A radiocarbon test has returned a date of AD 617 - 675. At this time the site was used as a burial ground. Ongoing investigations will focus on the use of the site for burial and also on the possible existence of other features which may be associated with this use or which predate or postdate this phase of activity.</p> <p>Once this work has been completed the Department of Arts, Heritage and the Gaeltacht and the National Museum will determine the nature and extent of any further archaeological investigations necessary at the site.</p> <p>This work is being monitored and licenced by the Department National Monuments Service.</p> <p>All information will be shared with the public once the reports are complete.</p> <p>The preliminary report while weather dependent is due the end of November.</p>

If you have any questions in relation to the above clarifications or you wish to discuss in more detail with the project manager, please do not hesitate to contact the project team on 1890 36 46 56.