COMMENT ON THE DRAFT SCOPING REPORT FOR THE PROPOSED ALTERNATIVE FUEL PROJECT, KILNS 2 & 3 AT THE HOLCIM DUDFIELD PLANT

1. These comments are submitted by the Legal Resources Centre on behalf of groundWork.

2. These comments identify aspects that should be included in the environmental impact assessment (EIA) for the proposed project to ensure that the evaluation of impacts is done in accordance with the requirements of the applicable environmental laws. Each heading identifies an issue for inclusion in the EIA.

Consideration of alternatives

3. Holcim cannot just state that alternatives do not exist for the hazardous waste streams that they propose to burn. This is misleading to the public. There are many alternative reuse options for these waste streams and so, until Holcim have undertaken full suitable life cycle assessments for all the waste streams and can prove that the best alternative in the South African context is to incinerate these wastes, then the incineration option should not even be considered.
4. A discussion of alternatives should include a consideration of how the use of waste as fuel will affect the reduction and recycling of those waste streams as part of an overall waste policy for South Africa.

Enforcement and monitoring

5. At the COP2 side event held in Geneva, Holcim presented guidelines by Holcim/GTZ (the German Corporation for International Cooperation) titled

"The Holcim-GTZ public private partnership – Guidelines on co-processing waste material in cement production". Within this document the authors make recommendations after consulting with a wide audience of stakeholders under which conditions the burning of alternative fuels and raw materials (AFR) should be allowed. This report strongly recommends that before co-processing of waste in cement kilns can be allowed, a number criteria must be met in the country within which it is proposed. The EIA must include a discussion of how South Africa complies with these requirements.

6. Holcim refers to their operations around the rest of the world and in European and Northern American cement companies that burn hazardous waste as if they do so with full public consent and acceptance. This is again a misrepresentation to the public because there is a long and well documented history of public opposition and protest against these Northern cement companies burning hazardous waste. In addition, Holcim's track record regarding environmental management is not good. The EIA must disclose this and explain how Holcim will rectify the problems encountered elsewhere.

Waste analysis plan and feedrate limits

7. Feedrate limits are the key means of controlling of toxic heavy metals emissions (including mercury, lead, arsenic, beryllium, and chromium). In contrast to the difficulty of monitoring stack emissions of these substances, it is relatively easy to monitor the amount of toxic heavy metals that are going into the cement kiln and then rely on conservative assumptions about the fraction of the input heavy metals are emitted from the stack to impose reliably enforceable limits on emissions of toxic heavy metals. For this reason, the U.S. EPA requires that operators of cement kilns burning hazardous waste, as part of its meeting the requirement for monitoring of emissions, to comply with certain requirements for the monitoring of feedrates. The following is an extract from the relevant regulation:

40 CFR § 63.1209(c) Analysis of feedstreams.—
http://a257.g.akamaitech.net/7/257/2422/12feb20041500/edocket.access.gpo.gov/cfr_2004/julqtr/pdf/40cfr63.1209.pdf

General: Prior to feeding the material, you must obtain an analysis of each feedstream that is sufficient to document compliance with the applicable feedrate limits provided by this section.

Feedstream analysis plan: You must develop and implement a feedstream analysis plan and record it in the operating record. The plan must specify at a minimum:

- *(i)The parameters for which you will analyze each feedstream to ensure compliance with the operating parameter limits of this section; (ii) Whether you will obtain the analysis by performing sampling and analysis or by other methods, such as using analytical information obtained from others or using other published or documented data or information; (iii) How you will use the analysis to document compliance with applicable feedrate limits (e.g., if you blend hazardous wastes and obtain analyses of the wastes prior to blending but not of the blended, as-fired, waste, the plan must describe how you will determine the pertinent parameters of the blended waste); (iv) The test methods which you will use to obtain the analyses; (v) The sampling method which you will use to obtain a representative sample of each feedstream to be analyzed using sampling methods described in appendix I, part 26, of this chapter, or an equivalent method; and (vi) The frequency with which you will review or repeat the initial analysis of the feedstream to ensure that the analysis is accurate and up to date.*

Review and approval of analysis plan. You must submit the feedstream analysis plan to the Administrator for review and approval, if requested.

8. The EIA must demonstrate that the plant will at least do the same evaluation and follow similar procedures to those required by the EPA. In addition the final scoping report must also set feedrate limits for cadmium, lead, arsenic, beryllium and chromium.

Monitoring performance of air pollution control devices

9. Many people assume that monitoring the performance of a polluting facility means monitoring, as frequently as possible (if not continuously) pollutant emissions. However, that is only HALF the problem. It is just as important to monitor, directly and continuously, the performance of the facility's air pollution control devices. For many pollutants, such as heavy metals and dioxin, it is impossible to monitor emissions continuously. Therefore, the best way of knowing whether a facility is controlling emissions of these pollutants is to obtain real-time information about the performance of relevant air pollution control devices.

10. For example, if a fabric filter is functioning properly, then air pressure upstream of the filter is much higher than the air pressure downstream of the filter. However, if there is a tear or rupture of the fabric filter, then this can be detected by a sudden drop in the difference between air pressures on both sides of the fabric filter. It is relatively simple to obtain real-time information about air pressures on both sides of the fabric filter. If you see a sudden drop in the difference between the air pressures, then you can infer that there is breach in the integrity of the fabric filter and that excessive emissions are occurring – without the need to measure these emissions.

11. Similarly, if a facility is relying on rapid cooling of exhaust as a means to control dioxin emissions, then measuring the temperature of the exhaust prior to the air pollution control device becomes the most reliable means of telling whether the facility is adequately controlling dioxin emissions.

12. For this reason, the US EPA regulation applicable to cement kilns burning hazardous waste have numerous monitoring requirements that focus not only on pollutant emissions, but on the performance of a facility's air pollution control devices. For example, under 40 CFR section 63.1209, a cement kiln burning hazardous waste must monitor and report the following conditions.

To remain in compliance with the destruction and removal efficiency (DRE) standard:

40 CFR section 63.1209(j)(1) – Minimum combustion chamber temperature
40 CFR section 63.1209(j)(2) – Maximum flue gas flowrate or production rate
40 CFR section 63.1209(j)(3) – Maximum hazardous waste feedrate

To remain in compliance with the dioxin and furans emission standard:

40 CFR section 63.1209(k)(1) – Gas temperature at the inlet to a dry particulate matter control device 40 CFR section 63.1209(k)(2) – Minimum combustion chamber temperature.
40 CFR section 63.1209(k)(3) – Maximum flue gas flowrate or production rate
40 CFR section 63.1209(k)(4) – Maximum hazardous waste feedrate

If the cement kiln uses an activated carbon injection system to control emissions of dioxin and furans:

40 CFR section 63.1209(k)(6)(i) – Minimum carbon injection rate 40 CFR section 63.1209(k)(6)(ii) – Minimum carrier fluid (gas or liquid) flowrate or pressure drop

If the cement kiln uses a catalytic oxidizer to control emissions of dioxin and furans:

40 CFR section 63.1209(k)(8) (i) – Minimum flue gas temperature at the entrance of the catalyst.
40 CFR section 63.1209(k)(8) (ii) – Maximum time in-use 40 CFR section 63.1209(k)(8) (iv) – Maximum flue gas temperature

If the cement kiln uses a dioxin/furan inhibitor to control emissions of dioxin and furans:

40 CFR section 63.1209(k)(9) (i) – Minimum inhibitor feedrate.

To remain in compliance with the mercury emission standard:

40 CFR section 63.1209(l)(1) –12-hour rolling average limit for the total feedrate of mercury in all feedstreams

To remain in compliance with the particulate matter emission standard:

If the cement kiln uses a high energy wet scrubber:

40 CFR section 63.1209(m)(1)(i)(A) – Minimum pressure drop across the wet scrubber on an hourly rolling average 40 CFR section 63.1209(m)(1)(i)(C) – Minimum liquid to gas ratio or the minimum scrubber water flowrate and maximum flue gas flowrate on an hourly rolling average

If the cement kiln uses any wet scrubber:

40 CFR section 63.1209(m)(1)(i)(B) – Maximum solids content of the scrubber liquid or a minimum blowdown rate

To remain in compliance with the semivolatile metal (cadmium and lead) and low volatile metal (arsenic, beryllium, and chromium) emission standards:

40 CFR section 63.1209(n)(1) – Maximum inlet temperature to dry particulate matter air pollution control device 40 CFR section 63.1209(n)(2) – Maximum feedrate of semivolatile and low volatile metals

To remain in compliance with the hydrogen chloride and chlorine gas emission standard:

40 CFR section 63.1209(o)(1) – Feedrate of total chlorine and chloride.
40 CFR section 63.1209(o)(2) – Maximum flue gas flowrate or production rate

If the cement kiln uses a high energy wet scrubber:

40 CFR section 63.1209(o)(3)(i) – Minimum pressure drop across the wet scrubber on an hourly rolling average

If the cement kiln uses a low energy wet scrubber:

40 CFR section 63.1209(o)(3)(ii) -- Minimum pressure drop across the wet scrubber based on manufacturer's specifications 40 CFR section 63.1209(o)(3)(iii) – Minimum liquid feed pressure to the wet scrubber based on manufacturer's specifications 40 CFR section 63.1209(o)(3)(iv) – Minimum pH on an hourly rolling average 40 CFR section 63.1209(o)(3)(v) – Minimum

liquid to gas ratio or the minimum scrubber water flowrate and maximum flue gas flowrate on an hourly rolling average

If the cement kiln uses a dry scrubber:

40 CFR section 63.1209(o)(4)(i) – Minimum sorbent feedrate 40 CFR section 63.1209(o)(4) (ii) – Minimum carrier fluid flowrate or nozzle pressure drop

To comply with the requirements for combustion system leaks:

40 CFR section 63.1209(o)(p) -- Maximum combustion chamber pressure; maintain the maximum combustion chamber zone pressure lower than ambient pressure; perform instantaneous monitoring of pressure and the automatic waste feed cutoff system must be engaged when negative pressure is not adequately maintained

13. According to the draft scoping report (page 4-11): "4.2.4 Emissions Monitoring: OPSIS continuous emission measuring (CEM) equipment has been installed in the stacks of Kilns 2 and 3. The equipment allows for the continuous measurement of NO, NO, O, H O, SO, TOC, Benzene, Xylene, Toluene, HCL, HF, NH and CO. In addition an annual isokinetic emission measuring programme has been introduced on both kiln stacks. The isokinetic sampling programme measures 13 metals and dioxin and furan emissions in the stack. The EIA process will identify whether additional measuring, monitoring and reporting measures are necessary following the introduction of AFR."

14. Although this monitoring regime is a step in the right direction, it is not sufficient. Holcim is focusing on only half of the monitoring that is necessary: emissions monitoring. The final scoping report must also require a discussion

of the necessary monitoring of pollution control device performance as described in U.S. EPA rule 40 CFR section 63.1209.

Air quality impacts - Emission rates for the air quality dispersion model

15. The discussion in the scoping report of the shortcomings in the previous EIA process is noted. The EIA must fully address the concerns raised previously by stakeholders and by the authorities. The EIA must demonstrate that conservative emission factors are used in the EIAR.

Air quality impacts - Health risk assessment of air pollutant emissions

16. The health impacts of food ingestion pathways of deposited emissions of dioxins and other contaminants must be part of the specialist study on air quality and health impacts.

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