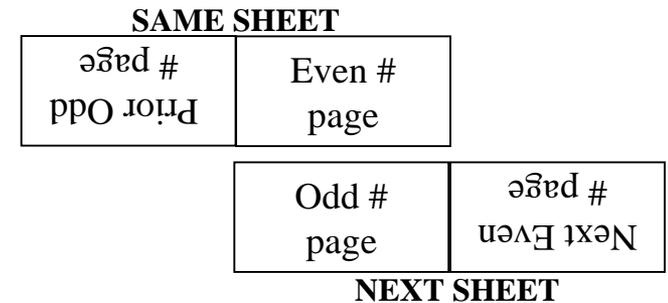


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- EFFECTIVE MITIGATION FOR GULF OIL LEAK -
UNDERSEA INCINERATOR (UI)
SUBMISSION #2d

Printing recommendation for this document: (see the figure at right)

This document is laid out to be best printed so that the sheets be stapled together along the long edge, and when opened at a particular location an even numbered page appears atop the *following* odd numbered page, both with print upright, so they may be viewed *together*. This will probably require some jiggery-pokery - trial and error - with whatever printer is used – the upshot should be that the even numbered pages are made inverted obverses of the *prior* odd numbered pages, such that page content is upright when the page is *flipped*.

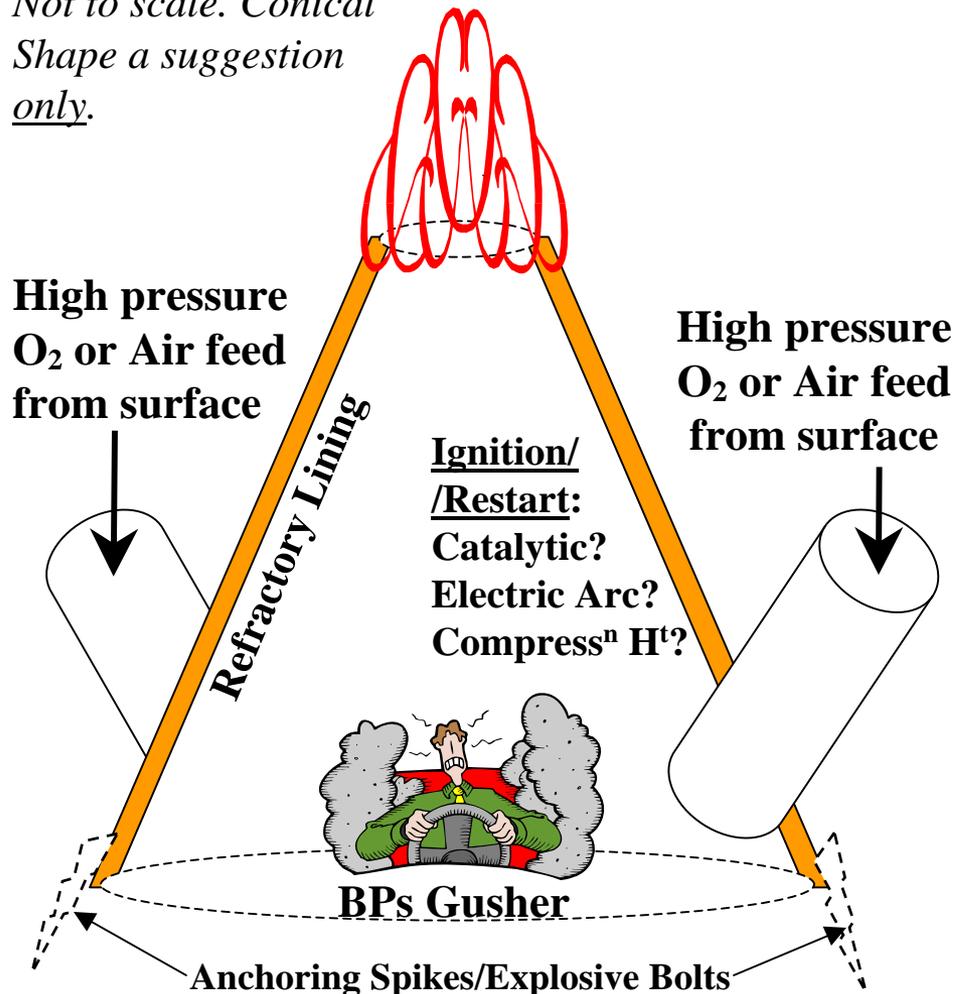


?HEAVILY MODIFIED (LARGE) DOME?

- EFFECTIVE MITIGATION FOR GULF OIL LEAK - (1) UNDERSEA INCINERATOR (UI) (1)

Outline Schematic ONLY

Not to scale. Conical Shape a suggestion only.



NOTES (1)

UNDERSEA INCINERATOR (1) ... (added: 6/24/10:)

Many more salient details are given in [this earlier version](#).

Established since then:

- Properly "sized" Casing pipes would be able to withstand the high oxidiser pressure required and, in fact, seem fairly routine. For example, 24" OD, 1" thick Casing Pipe made of material with a yield stress of 120,000 psi (and higher yield stress is available) calculates to have a burst pressure of 4,373 psi, or ~302 atmospheres (bar). Thinner pipe can be used deeper down, near the BOP. Pipe at the sea-surface would have to be the thickest. If more pressure is found to be needed - use thicker pipe/better material.
- Very high pressure, very high volume throughput gas compressors are available from the likes of [Rolls-Royce](#), [GE](#), [Man Diesel & Turbo](#) (page 12). In fact such prodigious devices are very often used in the oil industry. One of these, or perhaps a combination of them, as oxidiser sources, would be able to satisfy the stoichiometry of the situation (numbers depending on whose gusher flow rates you believe).

- EFFECTIVE MITIGATION FOR GULF OIL LEAK - (2)

UNDERSEA INCINERATOR (UI) (2)

NOTES (2)

UNDERSEA INCINERATOR (2) ... (added: 6/24/10:)

The outline compressor figures given at the above websites are:

Rolls-Royce:

Standard configurations up to 4500 psig (310 bar) maximum working pressures and up to 35,500 acfm (60,300 m³/h) flows. Power ratings range from 4,000 to 45,000 hp (3,000 to 37,300 kW) at design speeds from 4,000 to 13,600 rpm.

GE:

Design for High Pressure Applications: •Capacity range: up to 15000 m³/h •Pressure: up to 1000 bar

Design for Low to Medium Pressure Applications: •Capacity range: up to 50,000 m³/h •Pressure: up to 200 bar

Man Diesel & Turbo:

Pressure up to 1,000 bar; Suction volume flow from 2,000 to approx. 230,000 m³/h.

The interested reader is recommended to read the “[version before 6/24/10](#)”, for background, a little bit of thermodynamics, and the (not necessarily that) logical chronology of development. Also listed there are advantages and disadvantages (pros & cons); and that it would make no sense to consider anything as described here unless the situation with the Gulf Oil Disaster (GOD) was really, really bad ... which ... it is!

Also mentioned is that whilst the combustion products are none too desirable, that they would be almost infinitely less damaging than the unburnt crud (sic). CO₂ would be the largest undesirable combustion product, but that’s how most of the crud was destined to end up anyway. Although from a Climate Change perspective it is much longer lived than CH₄, the latter does exhibit 22 times the Global Warming forcing that CO₂ does. If, as *may* be the case, we are anywhere close to a Climate Change “tipping point”, it may be that it would be wisest to try to prevent/reduce the vast emissions of CH₄ from the GOD, and live with the much less active CO₂. The Pelicans, Bitterns, Dolphins ... &c ... would undoubtedly have preferred it this way ...

Following is a “lift” from the earlier version, giving a more “bespoke” incinerator shape:

- EFFECTIVE MITIGATION FOR GULF OIL LEAK - (3)
UNDERSEA INCINERATOR (UI) (3)

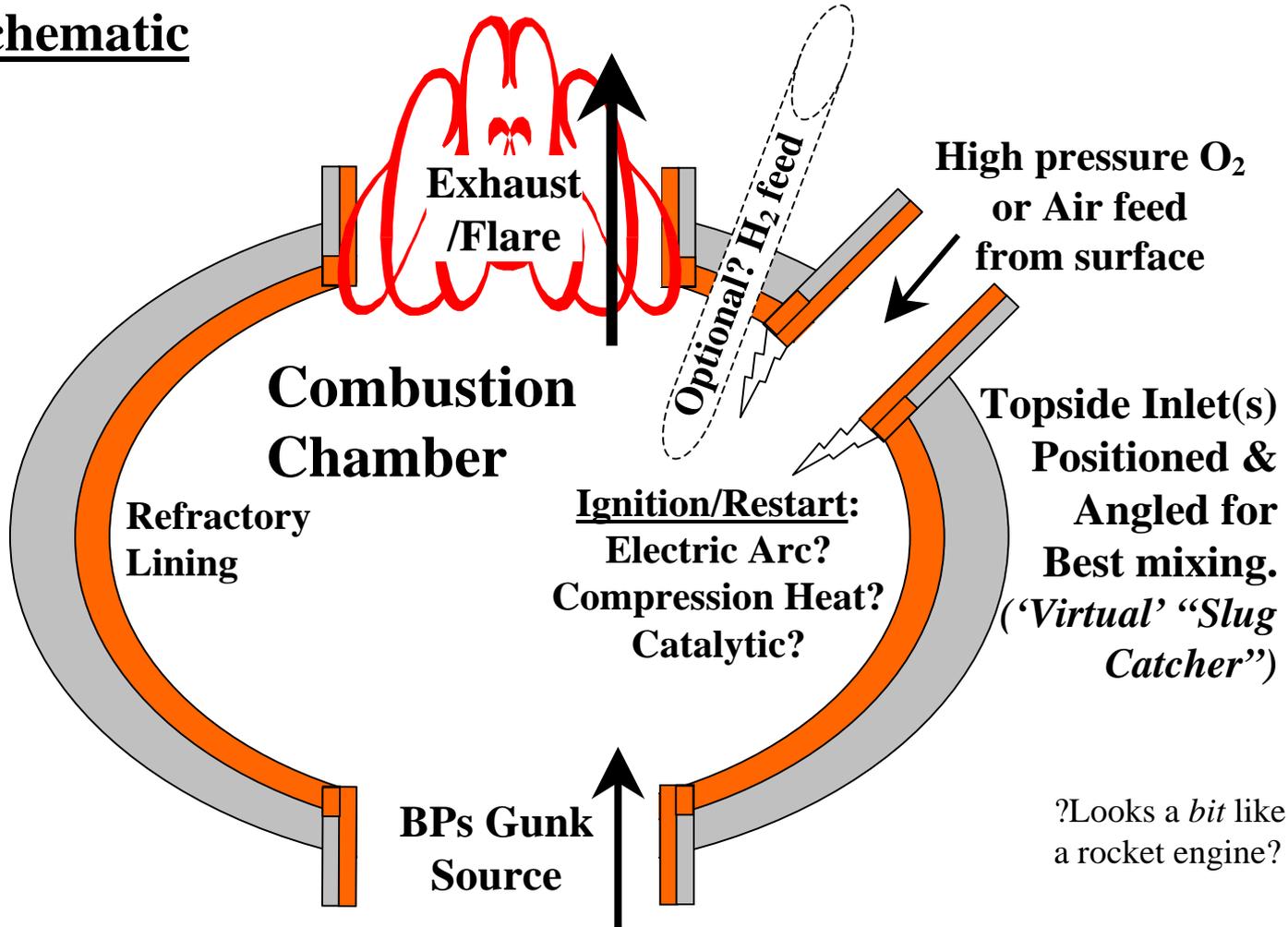
UNDERSEA INCINERATOR (3) ... (from vers. prior to: 6/24/10:)

Outline Schematic

ONLY.

Not to scale.

FIG. 2



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END OF
- EFFECTIVE MITIGATION FOR GULF OIL LEAK -
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