AIPSN Statement on Assam Gas Blowout and Fire

PSU Oil India Limited's (OIL) natural gas Well No.5 in its Baghjan Oil Fields in Assam's Tinsukhia District in Eastern Assam, less than a kilometre from the ecologically rich and fragile Dibru-Saikhova National Park and Biosphere Reserve with several other ecological hotspots in close proximity, suffered a blowout i.e. an uncontrolled release of natural gas, on 27 May 2020, throwing up huge quantities of gas at high pressure into the air. On 9 June 2020, due to yet undetermined reasons, fire erupted at the well and spread quickly over a distance of at least 5km towards the north-east. The fire has caused deaths of at least 2 firemen, and maybe others in nearby villages, and wreaked havoc on the surrounding ecosystem with extensive damage to human life, habitat, livelihoods and well-being, especially affecting crops, soil, vegetation, water bodies and aquatic life, wildlife especially birds, and micro-organisms. Many nearby houses have been gutted and over 7000 villagers have been evacuated to 12 relief camps.

OIL had called in experts from the Singapore-based Alert Disaster Control Company to assist in controlling the blowout, a day before the fire broke out. Now additional experts from the US and Canada have also been flown in. Heavy machinery and other equipment are being brought from ONGC facilities elsewhere in the region and in AP. An action plan has apparently been prepared and operations are underway to both control the fire and cap the well, a process expected to take about 4 weeks.

This still unfolding incident has once again focused attention on several inter-related aspects namely, frequent industrial disasters and poor safety record of companies in India, continuing dangerous dismantling of environmental regulations by the Central Government, leading to recurrent massive ecological damage along with loss of human lives, livelihoods and habitat.

Blowout and Fire

Baghjan 5 is one of the most prolific gas reservoirs of OIL. It produces around 80,000 standard cubic metres per day (SCMD) of gas from a depth of 3,870 metres at a pressure of 4,200 pounds per square inch (PSI), much higher than the normal producing pressure of around 2,700 PSI.

Oil or gas blowouts are relatively rare in modern times, but not unknown, due to improved drilling techniques, better drilling fluids to contain well pressure, and advances such as blowout preventers (BOP pronounced B-O-P not bop). BOPs are extremely heavy valves or similar mechanical devices which physically sit on the well mouth and prevent any venting of gas, oil or internal piping etc from the well, while also enabling pumping in of drilling fluids to maintain pressure balance. Changes in pressure of gas or oil in wells due to many possible reasons cause 'kicks' which can be sensed by operators through several indications during drilling operations. If such 'kicks' are not controlled, ultimately through deployment of the BOP, then a blowout results.

According to OIL, servicing and repairs of the well-head were taking place at Baghjan 5 on the fateful day. The well had been 'killed,' i.e. production had been stopped and the BOP had been removed to facilitate repairs. Simultaneously, 'workover' or test-drilling was underway at an adjacent new sand or deposit. Suddenly, gas started oozing out of Well No.5 and soon broke through the temporary cement barrier and turned into a full-scale blowout.

Again according to OIL spokespersons as quoted in several publications, the first response to the blowout, namely capping the well by replacing the BOP under cover of a water umbrella, continues to pose a huge challenge and high risk because of "very limited space and non-availability of open space above the well head." This points to a defective design of the well and rig set up. OIL will now have to deploy a heavy hydraulic transporter for capping the well, then pump in drilling mud, and provide for the water umbrella by building a special temporary reservoir in the nearby Dangori river and laying pipelines to the well. This further underlines poor standing arrangements for emergency situations.

Why and how the blowout happened in a killed well is being investigated by OIL, although 2 OIL employees at the site have been suspended for undisclosed reasons. The Assam Government has set up an Inquiry by a senior bureaucrat into the incident.

However, only an independent Inquiry by a Committee of Experts, free of pressures from the powerful PSU OIL, the Central and State Governments, and other regulatory authorities, preferably under judicial supervision, can properly bring out all the reasons behind the disaster and the responsibilities of various organizations and institutions involved.

Since OIL has numerous wells in the region which contribute all of OIL's crude oil and close to 90% of its natural gas, the lack of OIL emergency response teams and infrastructure within the region is a matter of grave concern, and prompted massive protests in all these locations. OIL's apparent and continuing lack of in-house expertise in oil/gas blowouts and similar emergencies despite over 100 years of operations in India, first as Burmah Oil, then in Joint Venture with OIL in 1961 and finally as a fully government-owned entity since 1981, as demonstrated in earlier blowouts in the region in 2004 and other accidents, is another matter of concern. OIL needs to urgently address safety and emergency preparedness and response, especially in the 18 other wells in the Baghjan Oil Field and a total of 59 wells in Assam, where public anger and fear is at a peak, after the weak and delayed response by OIL to the Baghjan disaster.

Damage to human life, livelihoods, habitat and health

The gas blowout spewed out a mix of propane, methane, propylene and other gases which spread over a fairly wide area about 5km in the windward direction. For many days, villagers complained of eyes burning, headaches, gas condensate settling on crops, land and water bodies. While several villagers have reported health complaints, there are to date no confirmed deaths of villagers from the gas or the subsequent fire. Monitoring of health effects will obviously have to continue over an extended period of time. Families of two firemen who apparently died by drowning while attempting to escape from the fire have been assured compensation by OIL.

Around 50 houses in the vicinity have been fully or partially burnt and a few thousand families are now sheltered in relief camps. Rehabilitation of all these families along with reconstruction of homes and compensation for damage incurred will obviously have to follow soon.

Many more people too have been badly affected by damage to their crops, land, livestock and livelihoods. Gas condensate and combustion residues carried over a wide area by wind have been deposited on land, agricultural produce and water bodies. Land used for cultivation of areca nut, banana, tea and bamboo, may have suffered considerable damage even affecting future crops. The Brahmaputra and several smaller rivers are in flood during the monsoons, and have brought condensate into farm lands, water bodies and even homes. The famous Maguri-Motapung Wetlands or beel, located inside the Dibru-Saikhowa Reserve and only 2km from Baghjan 5, has been badly affected, threatening the food supply and livelihoods of almost all households around the beel. Considerable harm has thus been done to human livelihoods and habitat, and to the highly sensitive ecology of the area.

Ecological damage

The entire region is home to many reserve forests, wildlife sanctuaries, protected water bodies, forests and other ecosystems. The Dibru-Saikhowa Biosphere Reserve in Assam links up with Namdapha National Park and Deomali Elephant Reserve in Arunachal Pradesh, together forming a large wildlife corridor in the Indo-Myanmar Biodiversity Hotspot.

The Dibru-Saikhowa Biosphere Reserve also includes the Maguri-Motapung Wetlands, rich in aquatic flora and fauna including the endangered Gangetic Dolphin, at least one of which has been found dead. Waters in the Wetland have reportedly turned blue and yellow due to the contamination. The Reserve and Wetland are famous for their resident as well as migratory birds, butterflies, wild cats

and feral horses. Since the Reserve is close to the confluence of the Brahmaputra and other rivers of the North-East such as the Lohit, Dibru, Dibang and Siang, contamination from condensate and combustion residues is likely to spread widely through these rivers. Substantial parts of this ecosystem may even have suffered permanent impairment. Damage to wildlife, bio-diversity, water bodies and the broader ecosystem in the area requires systematic and careful assessment so that remedial action may be planned and initiated.

The management plan for the Maguri-Motapung beel highlights oil leaks as a potential hazard to the ecosystem and, having seen the damage from a gas blowout, one can imagine the impact of a blowout at any of the oil wells in the area which would be far greater. The National Board for Wildlife (NBW) during earlier inspections in the area had warned against further expansion of oil drilling activities in this region.

Reckless Environmental Clearances

Ironically though, the same NBW recently on 24 April 2020 permitted use of part of the nearby Dehing-Patkai Elephant Reserve for opencast coal mining by North-Eastern Coal Fields (NECF), a subsidiary of Coal India Limited, and a much wider area for underground coal mining. This underlines a sharply increasing trend encouraged by the Central Government to indiscriminately allow extractive industries and infrastructure projects in forests, sanctuaries and protected areas, and to dilute rules and regulations to enable the same.

Thus, the Ministry of Environment & Climate Change (MoEFCC) gave Environmental Clearance as recently as 11 May 2020 for exploratory drilling by OIL for hydrocarbons in as many as 7 locations in the Dibru-Saikhowa National Park. OIL justified this by saying it would "not enter the National Park" but use Extended Reach Drilling (ERD) from a plinth 1.5km outside the Park boundary at a pre-existing well head but reaching into a new well drilled 3.5km under the surface of the Park. Commentators have alleged that this clearance was granted without careful scrutiny by experts. Such extensive exploration and subsequently extraction of oil and/or gas further threatens the sensitive ecosystem of this area and exposes the region to much higher risks of accidents such as the recent Baghjan blowout and fire.

Actually, whether the actual well mouth is inside or just outside the Park, matters little if a blowout or leak occurs. At Baghjan for instance, gas from the blowout and the resultant fire spread over several kilometres of Park and Wetland, and affected bodies and ecosystems far and wide due to condensate being carried in the wind and entering river systems. The hasty and blanket clearances given by MoEFCC without rigorous environmental assessment by experts also emboldens project holders, especially large and powerful PSUs and corporate houses, to ignore environmental considerations, abandon precautionary measures, and turn a deaf ear to public concerns and protests. The Draft EIA Notification 2020 proposes to regularize such blanket environmental clearances for exploration.

To add fuel to the fire of reckless hydrocarbon exploration and extraction, the Directorate General of Hydrocarbons (DGH) announced an Open Acreage Licensing Policy (PALP) in June 2017 which essentially allows private entities to apply for exploration in sites of their choosing. Bidders are required to have only a mere 1 year experience in exploration and related activities, opening the door to inexperienced and unqualified companies merely chasing profits at the cost of the environment and local populations. If even large 100 year-old companies like OIL find it difficult, or do not care, to take adequate safety precautions, one shudders to think what may happen if rank novices enter this sector.

Demands

The following demands arise from the above:

- Independent Inquiry by a Committee of Experts led by a sitting Judge or under judicial supervision, should look into:

- ♦ the design and layout of OIL Baghjan Well No.5 and related infrastructure, safety measures and emergency preparedness at the site and in the Baghjan Oil fields in general
- ♦ operational errors and capabilities of OIL personnel on the spot at the time of the blowout, especially of those related to safety and emergencies
- ♦ what if any early warning indications or 'kicks' were detected and measures if any taken to prevent the blowout
- ♦ reasons for failure to quickly cap the well after the blowout, and
- ♦ how and why the fire was caused, and precautions if any, taken to prevent it.
- ♦ possible contribution to the blowout by the adjacent workover in a new 'sand' outsourced by OIL to M/S John Energy

- Inquiry Committee should also:
  - ♦ assess and recommend compensation and other measures to be undertaken by OIL and costs thereof related to loss of life, livelihoods, habitat and health problems caused by the Baghjan gas blowout and fire
  - ♦ assess and recommend measures to be undertaken by OIL and costs thereof related to environmental damage in the area and remedial action
- Safety Audit should be conducted, preferably by the above Independent Expert Committee, especially as regards emergency preparedness and response, of all other wells in the Baghjan Oil Field and at other OIL sites in the North East
- OIL be required to deposit with appropriate authorities an amount of Rs.100 crore to cover costs of interim compensation to affected persons for loss of life, homes, crops, livestock and livelihoods, and for immediate clean-up of worst affected parts of the Dibru-Saikhowa National Park and Maguri-Motapung Wetlands pending more detailed assessment by the Inquiry Committee

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Contact
D. Raghunandan 9810098621
Isfaqur Rahman 7002525784

Social Media
Twitter @gsaipsn
Email gsaipsn@gmail.com
Facebook @allindiapeoplessciencenetwork