



Community Liaison Committee: Maritime Launch

Tuesday, October 4th, 2022

4-6:00pm

Members in Attendance

Ginny Boudreau, GCIFA
Sheri Parker, Community Resident
Gordon MacDonald, MODG
Janet Peitzsche, Deputy Warden
Harold Roberts, Community Resident
Sarah McLean, Maritime Launch
Harvey Doane, Maritime Launch
Steve Matier, Maritime Launch
Ray White, Community Resident

Regrets:

Fin Armsworthy, Councillor, District 8
Judy Cook, Community Resident
Della Horne, Community Resident
Mike McLean, Community Resident
Frank Sander, Community Resident

Meeting Minutes:

Call to Order and Welcome

- Sarah McLean (Maritime Launch) called the meeting to order at 4:00

Maritime Launch: Spaceport Nova Scotia Update

- Sarah opened the meeting and shared a project update which included the following milestones:
 - Crown land lease with the province secured (August 2022)
 - Approval to start construction was granted by the province (August 2022)
 - Maritime Launch continues to participate in meetings with MLAs and MPs in Nova Scotia to share updates and progress
 - Maritime Launch traveled to the Canadian Space Agency in July to participate in the integration of cubesats as part of the Canadian Cubesat Program. It was exciting to see Dalhousie University and University of Victoria there to showcase their work.
 - Maritime Launch was an industry delegate at the International Astronautical Congress held in Paris in September
 - At the IAC, Maritime Launch announced a new launch vehicle partnership with UK based Skyrora, who is developing a small class vehicle for orbital launch. A definitive agreement will be negotiated as an immediate next step.
 - At IAC, Maritime Launch announced a CubeSat program for university students in Ukraine in partnership with the State Space Agency of Ukraine and Nanoracks. The Canadian Space Agency participated in our announcement and committed to sharing best practices with Ukraine to help ensure a successful program
 - Maritime Launch continues to engage with KMKNO on a Benefits agreement and with Paqtnkek on opportunities for collaboration and partnerships

Update on Regulatory Activities and Work Onsite

- Harvey Doane provided an update on the compliance work that is underway in partnership with Nova Scotia Environment and Climate Change and the Department of Natural Resources and Renewables as it relates to the EA Approval granted in 2019.
- During the past year, Maritime Launch focused on conditions associated with construction, and in August, we signed a crown land lease with the province. In the days following the lease, Maritime Launch was then approved to start construction.
- Maritime Launch has begun construction, and at the same time, continues working with the Province to address conditions related to the operation of the spaceport.
- Harvey shared details regarding the work happening onsite
 - As construction manager, Lindsay has secured the site with a trailer and has conducted safety training for all workers on site; certification is required before work is started
 - Any person who accesses the site must undergo safety training
 - Site has been prepped for road building
 - First priority is to create road access down to the Horizontal Integration Facility
 - It was confirmed that the construction workers onsite are from across the municipality.
 - Equipment rentals are also sourced from the local community
 - Current challenges associated with construction:
 - Costs have increased significantly, consistent with across the industry
 - Skilled labour and materials have been a challenge to access
 - Fiona has caused a shortage of machine operators and labourers

Roundtable Questions

- One member asked what the distance was between Sable and the proposed launch pad location. It is approximately 1.3 kilometers.
- One member asked if Nova Scotia Power is up-to-date on our project and it was confirmed that yes, they have been very engaged.
- One member asked if local contractors have been hired and it was confirmed that we are working closely with Lindsay to ensure that if the local contractors are available for the work, they are the priority hire. Lindsay is also renting local equipment.
- Maritime Launch expressed that finding labourers has not been easy given shortages of people. In addition, the project is primarily focused on road construction, and as it moves further along the local workforce will grow.
- One member commented that they observed that the workers onsite are from within the municipality.
- One member asked about the fire station and when that particular capacity is needed. Maritime Launch shared that as the site matures for the medium class launch, the full fire service will be required.
- Maritime Launch shared that there are a number of investors very curious to see the local area, and the company has provided tours of the community to those interested.
- Maritime Launch shared that work with Transport Canada on the regulatory framework to support launch is ongoing. There is a lot of exciting progress and a great spirit of collaboration with the federal agency.
- Maritime Launch shared that the company is meeting regularly with specialty support equipment partners to brief them on the site and the required needs. It was noted that there is a lot of interest for some partners to set up business in Nova Scotia, given proximity to the spaceport.
- Maritime Launch briefed the CLC on its partnership with Skyrora and highlighted its sustainable fuel source. Skyrora uses waste products to develop its fuel.
- One member offered a concern from the community about the impact of the exhaust from the launch vehicle first stage combustion of liquid oxygen and high purity kerosene known as RP1. It was asked if the combustion biproducts from the first stage at launch can reach the nearby communities. Maritime Launch explained that the heated exhaust gas from combustion lifts immediately into the upper atmosphere and that expert studies demonstrate that exhaust gas dissipates very close to the launch pad typically within 200 meters and that the Focus Report on the NSE website shared that science and data. It was also explained that 28% of the exhaust is steam and the rest is combustion by-products including carbon dioxide and carbon monoxide. Also noted was that the purity of the RP1 has a factor of 10 less sulphur, the main potential contaminant, than kerosene and has much more complete

combustion because of the liquid oxygen used, making for very clean combustion. In short, the first stage propellants are considered as greener fuels used in industry.

- It was also asked the impact of the second stage fuel. Maritime Launch explained that the upper stage fuel was only used on orbit and would be hundreds of kilometers above the earth, in space, and its combustion in space would not affect the community. Also noted, that even if there were a local spill or event occurred, that the analysis conducted showed no impact to any nearby community, even under the worst-case scenarios. This was verified by an independent study that Maritime Launch had conducted. It was then stated that the results of that study were presented by the independent firm was shown on a poster board from the previous open house clearly showing no affected areas in the community. The Open House was hosted by the independent experts who conducted the study. What was also discussed was that, as shown in the focus report, the upper stage fuel used, even if spilled, became inert almost immediately because of its interaction with the oxygen in air and water and that as a result of the engineering controls used internationally in industry, it would make the likelihood of any event extremely remote.
- One member stated that some members of the community do not trust the government's environmental assessment process. Maritime Launch stated that the Company has invested millions of dollars into scientific studies and testing to mitigate all environmental impacts and risks. This has been the major bulk of the company's work since 2019.
- One member asked if Maritime Launch was on time, or if the company is behind schedule. Maritime Launch shared that we continue our work towards a first launch of the medium class vehicle at the end of 2024, but we face significant contextual challenges including a material and labour challenge. Other challenges include seasonal changes in Nova Scotia (construction paused in winter months), and the fact that Covid has impacted business operations more now, than during the height of the pandemic. Geopolitics are also affecting Maritime Launch, as it is for every business.
- One member commented that the impact of Fiona has certainly underscored the importance of satellite technology and keeping people connected in times of crisis.

At 5:40 pm the meeting was adjourned.