*nuclear*FACTS: Public Engagement about the Impacts of Nuclear Research

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Abstract

The Forum for Accountability and Communities Talking *nuclear* Science – *nuclear*FACTS– is a cornerstone of the Sylvia Fedoruk Canadian Centre for Nuclear Innovation's efforts to engage the people of Saskatchewan in evidence-based conversations about the impacts of the nuclear research, development and training activities supported by the Fedoruk Centre. The second annual *nuclear*FACTS public colloquium was held 20 November 2014, and featured the participation of 16 research projects. This paper discusses the continued development of the *nuclear*FACTS concept and its role in the Fedoruk Centre's upstream engagement efforts.

1. Introduction

The second annual Forum for Accountability and Communities Talking *nuclear* Science (*nuclear*FACTS) was held in Saskatoon on 20 November 2014. The one-day event, which consists of a peer-to-peer forum for research teams supported by the Fedoruk Centre during the day and an evening public colloquium and poster session, is one of the primary vehicles for the Fedoruk Centre's outreach and engagement activities. The purpose of the event is three-fold:

- To provide researchers supported by the Fedoruk Centre with an opportunity to report on the progress of their work to their fellow funded researchers and the Fedoruk Centre's Project Advisory Committee and staff, as part of the Fedoruk Centre's funding and reporting cycle;
- To communicate the impacts of the research and activities supported by the Fedoruk Centre to the people of Saskatchewan; and
- To contribute to ongoing engagement with the community about nuclear research and innovation.

In addition to supporting the building of the nuclear research, development and training capacity of Saskatchewan, a primary role of the Fedoruk Centre is to be a fact-based source of information on nuclear issues, fostering community awareness of those issues through public engagement. This emphasis on public engagement follows a growing trend in science communication related to public policy that has been in progress over the last 30 years [1]. Public engagement builds upon the so-called "deficit model" [2] of the traditional explanatory mode of communicating scientific or technological topics, where the originators of the communication (usually scientists and engineers) endeavour to teach the audience (the public, decision makers) about an issue, without necessarily considering the audience's interests, questions or concerns. In public engagement models, communication is intended to be interactive between communities of participants, with the messengers responding to the audience. Thus, *nuclear*FACTS is meant to follow a public engagement approach, encouraging interactions

between the wider community and the community of researchers supported by the Fedoruk Centre about the potential impacts of their work in the nuclear domain.

2. The Event

Research leaders, co-investigators, post-doctoral fellows and graduate students from 16 projects that received Fedoruk Centre funding from 2012 and 2013 participated in the events, along with the members of the Fedoruk Centre project advisory committee and staff. Fifty-six people took part in the peer-to-peer forum, which consisted of research teams giving presentations to their fellow researchers in three thematic groups: nuclear medicine, nuclear energy and materials research, and society and the environment. Chaired by a member of the project advisory committee, each presentation consisted of an overview of the group's research, as well as progress and results to date. Time was also set aside in each thematic group to select a spokesperson to represent the research teams during the public colloquium that evening.

The public colloquium followed the pattern first used at the inaugural nuclearFACTS in 2013, including brief presentations by the executive director of the Fedoruk Centre, researchers and a question and answer time followed by a poster session [3]. However, the increase in the number of project teams participating in *nuclear*FACTS 2014 (from five in 2013 to 16 in 2014) required a change to how individual research leaders presented their project and its potential impacts to the audience. Rather than have each researcher give a brief overview of their work as part of a panel discussion, research leaders and in some cases other members of the research teams were interviewed by the first author and a film crew, usually in the researchers' regular work setting, with the interviews edited into video research highlights of approximately 2 minutes duration each. The videos were grouped into montages by one of the three thematic areas used to organize the event, with the spokesperson from each thematic group providing an overview and introduction to their segment. All of the videos research highlights were subsequently posted to the Fedoruk Centre's YouTube channel [4].

The spokespeople participated as a panel in the ensuing question and answer session. Questions from the audience regarding a technical issue specific to a particular project were fielded from the floor by a representative of the research team concerned. Questions were submitted on index cards and posed by a moderator, with a roving microphone available for responses from researcher participants on the floor or follow-on comments from other participants. At one point, a discussion did break out among public and researcher participants on the floor, with one of the public participants being a member of the legislative assembly.

In all, approximately 110 people participated in the public colloquium. However, the majority were members of the research teams and students, with a very low turn-out from the 'general public' and limited media coverage compared to the previous year's event. A small group of four to six people left at the start of the question and answer session immediately after the moderator explained how written questions would be canvassed from the audience. Whether they were leaving due to time constraints, dislike of the format for submitting questions, or some other reason could not be determined.

3. Discussion

3.1 Why Engagement

Moving the science communications paradigm from a one-way transmission of information to a more interactive mode among a community of participants is seen by theorists, policy makers and communications practitioners as a way to address public concerns and beliefs related to the risks and benefits of science and technology. Adding an element of interactivity is intended to build trust and empower interested publics while also providing feedback to the research and policy making communities regarding public attitudes towards the technology or issue that is the topic of engagement [5]. For a publically-funded institution like the Fedoruk Centre, engagement activities are also an exercise in accountability (the 'A' in *nuclear*FACTS): from supported researchers to the Fedoruk Centre, and from the Fedoruk Centre-supported research community to the broader Saskatchewan community.

3.2 Impressions and Lessons Learned

While *nuclear*FACTS 2014 did fulfil its purposes in some respects, feedback from both researcher and public participants indicated that the increase in the event's size hampered opportunities for interaction – and thus engagement – among participants in both the peer-to-peer forum and the public colloquium. Dividing research participants into thematic tracks in the peer-to-peer forum limited opportunities for cross-disciplinary interactions and limited community building to within the thematic groups. The low turn-out from the general public and media was likely due to a combination of factors, including the time of year (late November instead of August as was the case in 2013) and weather (cold and freezing rain). These factors, along with plans to increase the amount of promotion for the event, will be taken into consideration for *nuclear*FACTS 2015, which will be held as part of Nuclear Science Week in October.

The research vignettes were successful in conveying the breadth of research; however some public participants commented that they contained too much information to digest in one sitting. Other comments observed that the unidirectional nature of the vignettes detracted from their engagement value, although this was alleviated to some extent by having opportunities to ask questions and the subsequent poster session. As was observed previously at *nuclear*FACTS 2013, posters that were non-technical with content purposefully targeted at a lay audience attracted more interest from public participants and resulted in more conversations between researcher and public participants [3].

3.3 Future Approach

The challenge for holding an engagement event like *nuclear*FACTS is to maximize opportunities for interaction among all participants while working within a number of constraints, principally time – the whole event takes place in a single day, with the public colloquium taking place in the course of a few hours in an evening – as well as catching and holding interest. Options for future editions of the event based on the lessons learned from 2014 include the addition of plenary presentations for each of the

thematic areas that will summarize the progress and impacts of the research being done within that thematic area, which could be used in both the peer-to-peer forum and the colloquium, the addition of a marquee speaker to the evening colloquium to attract a larger number of public participants, as well as an expanded use of social media to provide for interactions from a broader group of public participants.

4. Conclusion

Public engagement events such as *nuclear*FACTS offer an opportunity to inform the broader community of the impacts of research being supported by that community, as well as form the starting point for a larger discussion about nuclear science and technology. It is anticipated that this event will continue to be a key element of the Fedoruk Centre's outreach and communications activities for years to come.

5. References

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