Some general comments:

1. The beam time request needs to be better justified.
2. Systematic uncertainties of the expected observables (cross sections and structure functions both) are not discussed at all. It is a must to estimate those and fold in the discussion of the model-separation power of the expected results.
3. A better definition of the quantities discussed, for example SRC scale factor and EMC slope, not just the narrative given.
4. The proposal says that it measures SIDIS from D and He, but it looks like it measures inclusive DIS (e,e') with tagging. It needs to be clarified.
5. Radiative corrections are never mentioned.

More specific comments on each chapter:

I. Introduction and The EMC effect in SIDIS

I.1. The various models of the EMC effect have been classified on page 5, and the general problem of "no single model has been able to explain the effect and its x_b and A dependencies" has been stated. Then various physics connections are explained on pages 6 - 9 and specific physics topics are discussed in Chapter 1. However, it seems to me that this way of presentation would not be sufficient (unless it is addressed in the oral presentation at the PAC session) to make a strong case given the current level of competition for beam time in Hall-B. More specifically:

As far as I understand, the physics output of the proposed measurement will be in the comparison of data to model predictions and answering the question: "How well the various models describe the data, i.e. which model is favored by the data?". This seems to me a very weak strategy, given the statement on p. 5 that no model describes the EMC effect. I strongly recommend an aggressive discussion of possible deficiencies of each group of models, which this measurement can unambiguously address, i.e. nail down. It should be made clear what the unique contribution of the proposed observables is expected to be on the EMC modeling. Discrimination between various models by the proposed data is currently spelled out, but that point is weakened by the fact that none of the models can describe fully the already existing EMC data. The ability of the measurement to identify (in a model independent way?) kinematic ranges of weak FSI should be embedded in such a discussion, to strengthen the case for these measurements. This is valid for any other unique and new features of the data that the proponents consider to be the strongest contributors to the EMC question.

I strongly suggest that the physics goals of ths measurement are discussed in the context of already approved measurements addressing EMC-, FSI-, and SRC-effects (even if these other experiments use different observables to address the same physics questions, i.e. to constrain the same models referred to in this proposal).

I.2. Last sentence of the Chapter 1 introductory paragraph summarizes the goal of the proposed measurements, by classifying the objectives as (a) validity of the spectator mechanism; (b) FSI interactions; (c) medium modification of the nucleon structure function and the dependence of (b) and (c) on the nucleon binding energy. While objective (a) is clearly correlated in Section 1.1, (b) and (c) are not explicitly linked to in any of the other sections in Chapter 1. The links are "hidden" in the description of the models and the various EMC effects. Make these links obvious.

I.3. It is unclear to me how the connection between the SRC and the EMC effect (discussed on p.7) is relevant to the proposed measurements, since the SRC plateaus are observed at spectator momenta above 275 MeV/c but the proposed measurements target lower spectator momenta.

I.4. p.10, paragraph 2: "Nuclear effects in Eq. 1.2 are generated....." do you mean to refer to Eq. 1.1 here?

I.5. I would like to see an explicit motivation (~ 3-4 sentences) why it is important to test the spectator mechanism. Is this test relevant only for the conventional nuclear models, or also for the rescaling models? In fig. 1.2 only one model description is shown.

I.6. p.11, last sentence of section 1.1 makes a statement about effects due to target fragmentation only expected to be pronounced for momenta > 200 MeV/c (I assume you mean spectator momenta - state explicitly). Explain specifically what is the relevance of this fact for the proposal.

I.7. Section 1.2, paragraph 1, last sentence "Beyond the example presented here....." - explain how this statement (i.e. other observables) is relevant to this proposal. Do you plan to measure any of these other observables?

I.8. p.13, last sentence: "... the EMC ratio is generated by an average value of the nucleon removal energy...." - I have no idea how energy can generate an EMC ratio. Polish language.

I.9. Is there any connection (within the topic discussed in 1.5) between the proposed measurement and BONUS-12 program? Make an explicit statement.

I.10. I would like to see a new section 1.6: The physics driving the proposed measurement should be used to make a clear statement about (a) What is the major (the flagship) physics output seek in this experiment among all the topics 1.1 - 1.5. This should be clarified in section 1.6; (b) What are the required kinematic ranges and kinematic-variable resolutions needed to deliver the said physics output; and (c) What total uncertainties are required to deliver the phs should be folded with a discussion of the model uncertainties. Later, the total needed uncertainties should be unfolded into syst. and stat. uncertainties of the results. (a), (b), and (c) are critical for the discussion later of the experimental setup and the required beam time.

I.11. Instead of the current figures 1.2, 1.4, and 1.5, I would recommend the use of the figures 3.2, 3.3, and 3.4 (without the projected data of course). Currently, when I see Fig. 1.2 I wonder which exactly P_A-1 range is relevant. Curves are shown up to 0.8 GeV/c but in the experimental chapter it becomes obvious that a range up to 200 MeV/c at most will be covered by the data. Then the message of Fig. 1.2 becomes confusing. Fig. 1.4 shows predictions for D and Ca40 at Q^2 of 20 GeV/c. One of confusions is that the experiment does not propose Ca40 target. The other is in the comparison with Fig. 3.3. Comparing the two, it is obvious that for the deuteron target Q^2 of 20 GeV/c is much more beneficial than Q^2 of 5 GeV/c, where the two rescaling curves are much closer to each other and the data thus become much more expensive. Then I ask - why do you want to do that at 5 GeV/c?

I.12. In section 3, there is no equivalent to Fig. 1.3 figure - how is this helping the proposal? Are you going to measure F_2p_eff/F2p? If so, why do you not compare to the theory curves on Fig. 1.3? Which range of alpha do you need to cover and whit what uncertainties? On Fig. 1.3. top show the range of P_A-1 since this is the quantity one measures directly.

I.13.Why do you choose specifically He4 target? From the intro it seems to me that Be9 would be more interesting.

II. Chapter 2

II.1 Start this chapter with a table showing the experimental requirements (momentum and angular coverage and acceptance for what particles, PID requirements, etc.) These are motivated by the physics and are the deciding factors for the experimental choice of detectors.

II.2. Caption of Fig. 2.1: what is the message of this figure? Add a sentence such as "In the proposed experiment, will be used to detect ...." or something else to put the figure in the context of the measurement.

II.3. What do we learn from Table 2.1 and Fig. 2.2. Add text to captions - how is the information shown in the table and the figure relevant for this proposal?

II.4. p.19 in "Yet, even with perfect calibration....." Be quantitative and explicitly state in terms of number of sigmas, what separation between the 3H and 3He do you need to deliver the physics output of the proposal.

II.4 p.19 in "another issue with the RTPC is its slow response...." - Explain why this is an issue. Quantify what level of background rejection you need to deliver the physics output of the proposal. Currently the discussion is too qualitative.

II.5. Table 2.2, RTPC and Particles separated: you mean p, d rather than p?

II.6. What do we learn from figures 2.4, 2.6, 2.7, 2.9, 2.11, 2.16? These figures as well as the rest of the figures in chapter 2 just make a statement of what they show. Extra text in the figure captions should explain what is the conclusion from the shown facts that is of relevance to the proposal.

II.7. Section 2.3 should begin with explicit statement about the requirements (quantified) for momentum, angle, and timing resolutions, as well as the Nsigma in PID.

II.8. p.22, para 2 refers to "340 deg" - clarify in text what angle you mean, polar?

II.9 p.22, itemized list, second item: you mean "a clear space filled with" and "helium gas"? Explain what is the purpose of the He gas here.

II.10. p.22, third item in list: you mean "a drift chamber"? Specify the minimum radius, 35 mm?

II.11. Fig. 2.6. In addition to "what do we learn from the figure", explain that the dashed curves show electron trajectories.

II.12. p. 25, last paragraph of section 2.3.1: "to discriminate clearly electrons from protons" - would not the magnetic field do this discrimination?

II.13. Are you collaborating with Belle II - it is unclear how you will make use of their experience. Does your group have the expertise in house?

II.14. p.25, next-to-last sentence, in "highest anticipated momenta" clarify anticipated momenta of what.

II.15. p. 26 Throughout the whole paragraph starting with "The initial scintillator design...." improve language. The description of the outer scintillator layer is very confusing.

II.16. p.26 what is a "keystone-shaped scintillator"???

II.17. p.26 describes "The advantage of a dual-ended readout is that the sum...." Clarify that you mean the inner scintillator layer.

II.18. In caption of Fig. 2.9, quantify the comparison, i.e. the particle separation on left and on right panels.

II.19. In section 2.4, all estimates, simulations, etc. assume homogeneous solenoidal field. Make a statement of what field in-homogeneities are expected throughout the volume of the ALERT detector and what is the expected effect of these on rates, resolutions, efficiencies, etc.?

II.20. Section 2.4.1 in "The energy deposited in the solid detector" you mean "in the scintillator". Keep consistent name references to detector components.

II.21. Improve the caption of Fig. 2.11. What is the purpose of this figure? Also, you can explain what is shown by the different colors.

II.22. p.30. in "Assuming a 150 ps resolution.... and an energy resolution of 10%..." Is the 10% a reasonable assumption- where does it come from?

II.23. Figure 2.13 caption: add a sentence "The required resolutions are....".

II.24. Fig. 2.15: Explain what is the required recoil momentum range and link that to the range observed in the simulation.

II.25. Section 2.5 needs someone to read it again and correct expressions. For example, in "To be dismounted, it has to be rotated perpendicularly...." What is "it", I guess "sector". Perpendicularly? You mean "rotate about an axis perpendicular to the beam axis?, etc.

II.26. p. 33, sentence "The last important point abou the mechanics...." makes no sense to me.

II.27. p.35, last sentence "A total of five sectors have been build, it will allow..." makes no sense. Past form of build is "built".

III. Chapter 3

III.1 Section 3.1.2 states uncertainties were evaluated assuming 60+60 beam time days, while the Beam time request on p. 31 asks for 60+30 beam time days. This discrepancy needs to be addressed.

III.2. The way the section is organized sends the message that a random assumption for beam time was used to produce the projected data first and then the beam time request was made. I strongly recommend to use the physics to estimate what stat. uncertainties are needed in order to deliver the physics output of the experiment, then project to beam time request.

III.3. Fig. 3.2 - on top side show the P_A-1 range in GeV/c. Also, the PWA - FSI difference becomes larger with P_A-1 - should not one go higher in this variable? It is hard to see from the points what is the value of the stat. uncertainty on each point and how many sigmas are needed to distinguish between the two curves.

III. 4. In section 3.1.2.2: Proponents discuss theta_P_A-1 of 90deg and above 150 deg, stating that the latter drives the beam time request. Explain what is actually the angular coverage that is needed to reach the physics goals of the program. Large angles are very expensive in terms of beam time, but what is their weight in the physics value of the program? How low in angle can you go and still deliver physics quality?

III.5. p.38 last sentence "Indeed, in order to acceptable...." makes no sense. In addition, what are the acceptable error bars? Quantify first.

III.6. Systematic uncertainties of the expected observables (cross sections and structure functions both) are not discussed at all. I think, it is a must to estimate those and fold in the discussion of the model-separation power of the expected results.